



**Pyramid Way and McCarran Boulevard  
Intersection Improvement Project**

***DRAFT ENVIRONMENTAL IMPACT STATEMENT***

FHWA-NV-13-01-D

Federal Project No. CM-0191-(063)  
NDOT Project No. 73299

**Federal Highway Administration  
Nevada Department of Transportation  
Regional Transportation Commission of Washoe County**

**February 2013**




**Pyramid Way and McCarran Boulevard  
Intersection Improvement Project**

**DRAFT  
ENVIRONMENTAL IMPACT STATEMENT and  
SECTION 4(F) EVALUATION**

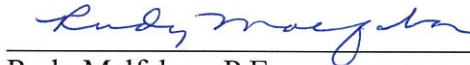
**FHWA Project No. CM-0191(063)  
NDOT Project No. 73299**

Submitted pursuant to 42 U.S.C. 4332(2)(c), by the United States Department of Transportation, Federal Highway Administration, Nevada Department of Transportation, and Regional Transportation Commission of Washoe County

2/21/13  
Date of Approval

  
Susan Klekar  
Division Administrator, Federal Highway Administration

2-4-13  
Date of Approval

  
Rudy Malfabon, P.E.  
Director, Nevada Department of Transportation

The following persons may be contacted for additional information concerning this document:

Abdelmoez Abdalla, Ph.D.  
Environmental Program Manager  
Federal Highway Administration  
705 North Plaza Street, Suite 220  
Carson City, NV 89701  
775.687.1204

Steve M. Cooke, P.E.  
Chief, Environmental Services  
Nevada Department of Transportation  
1263 South Stewart Street  
Carson City, NV 89712  
775.888.7013

FHWA will issue a single Final Environmental Impact Statement and Record of Decision document pursuant to Pub. L. 112-141, 126 Stat. 405, Section 1319(b), unless FHWA determines statutory criteria or practicability considerations preclude issuance of the combined document pursuant to Section 1319.

### Abstract

This Draft Environmental Impact Statement (EIS) documents potential environmental impacts from the Pyramid Way and McCarran Boulevard Intersection Improvement Project. The proposed project would involve operational improvements to the Pyramid Way and McCarran Boulevard intersection. Pyramid Way and McCarran Boulevard are two through lanes in each direction. The proposed improvements would widen Pyramid Way to three lanes in each direction (north-south) from a reconfigured Queen Way to Tyler Way. McCarran Boulevard would remain two lanes in each direction (east-west). Operational improvements at the intersection consist of additional turning lanes. The Draft EIS addresses the social, environmental, and economic impacts associated with a Build Alternative (the Preferred Alternative) and a No Build Alternative. Notable impacts that have been identified consist of relocation of residences and businesses.

Comments on this Draft EIS are due by April 8, 2013 or 45 days after the Notice of Availability is published in the *Federal Register*, whichever is later and should be sent to Steve Cooke, Nevada Department of Transportation, 1263 South Stewart Street, Carson City, NV 89712.



# CONTENTS

---

<b>Executive Summary .....</b>	<b>ES-1</b>
<b>1. Purpose and Need .....</b>	<b>1-1</b>
1.1 Introduction.....	1-1
1.2 Project History .....	1-1
1.3 Proposed Improvements.....	1-4
1.4 Purpose of the Project .....	1-5
1.5 Need for the Project .....	1-5
1.5.1 Traffic Operations.....	1-5
1.5.2 Safety .....	1-7
1.5.3 Local Access .....	1-8
1.5.4 Pedestrian and Bicycle Circulation.....	1-8
<b>2. Alternatives.....</b>	<b>2-1</b>
2.1 Identification of Potential Improvement Concepts .....	2-1
2.2 Alternatives Eliminated from Further Consideration .....	2-2
2.2.1 Direct Connection – Eastbound-to-Northbound Flyover Ramp .....	2-3
2.2.2 Expanded At-Grade Intersection.....	2-5
2.2.3 Pyramid Way Grade Separation over McCarran Boulevard.....	2-5
2.2.4 Summary of Alternatives Eliminated.....	2-7
2.3 Alternatives Studied in Detail.....	2-8
2.3.1 No Build Alternative.....	2-8
2.3.2 Build Alternative – Modified Expanded At-Grade Intersection (Preferred Alternative).....	2-8
2.4 Project Funding.....	2-14
<b>3. Affected Environment, Environmental Impacts, and Mitigation .....</b>	<b>3-1</b>
3.1 Introduction.....	3-1
3.2 Traffic Noise .....	3-3
3.2.1 Federal and State Policies and Procedures.....	3-3
3.2.2 Existing Conditions.....	3-5
3.2.3 Impacts.....	3-5
3.2.4 Mitigation.....	3-10
3.3 Socioeconomics .....	3-13
3.3.1 Land Use .....	3-13
3.3.2 Social Environment.....	3-13
3.3.3 Impacts.....	3-18
3.3.4 Indirect Impacts .....	3-31
3.3.5 Cumulative Impacts .....	3-31
3.3.6 Environmental Justice .....	3-33
3.3.7 Mitigation.....	3-38
3.4 Visual Resources.....	3-39
3.4.1 Regulatory Setting .....	3-39

**Contents**

3.4.2	Methodology .....	3-40
3.4.3	Viewers and Viewer Sensitivity.....	3-40
3.4.4	Impacts.....	3-45
3.4.5	Mitigation.....	3-53
3.5	Cultural Resources .....	3-56
3.5.1	Native American Consultation.....	3-56
3.5.2	Archaeological Resources.....	3-56
3.5.3	Impacts.....	3-57
3.5.4	Historic Architecture Inventory .....	3-57
3.5.5	Historic Architecture Impacts.....	3-61
3.5.6	Mitigation.....	3-63
3.6	Hazardous Waste and Materials.....	3-63
3.6.1	Study Methodology.....	3-63
3.6.2	Regulatory Standards/Criteria.....	3-64
3.6.3	Existing Conditions.....	3-64
3.6.4	Impacts.....	3-67
3.6.5	Mitigation.....	3-68
3.7	Water Resources .....	3-69
3.7.1	Regulatory Setting .....	3-69
3.7.2	Affected Environment.....	3-70
3.7.3	Existing Water Quality .....	3-71
3.7.4	Impacts.....	3-71
3.7.5	Best Management Practices .....	3-75
3.7.6	Mitigation Measures .....	3-75
3.8	Floodplains.....	3-76
3.8.1	Federal Regulations .....	3-76
3.8.2	Required Permits and Approvals .....	3-77
3.8.3	Existing Conditions.....	3-78
3.8.4	Impacts.....	3-79
3.8.5	Mitigation.....	3-79
3.9	Biological Resources .....	3-79
3.9.1	Existing Conditions.....	3-79
3.9.2	Impacts.....	3-80
3.9.3	Mitigation.....	3-80
3.10	Air Quality .....	3-81
3.10.1	Federal Regulations and Standards.....	3-81
3.10.2	Existing Conditions.....	3-82
3.10.3	Impacts.....	3-82
3.10.4	Mitigation.....	3-87
3.11	Energy .....	3-87
3.11.1	Affected Environment.....	3-87
3.11.2	Impacts.....	3-88
3.12	Greenhouse Gases and Climate Change .....	3-89
3.13	Other Environmental Consequences.....	3-93
3.13.1	Unavoidable Adverse Impacts .....	3-93
3.13.2	Local Short-Term Uses versus Long-Term Productivity.....	3-93

3.13.3 Irreversible and Irretrievable Commitment of Resources.....	3-94
<b>4. Section 4(f) De Minimis Impact Evaluation .....</b>	<b>4-1</b>
4.1 Legal and Regulatory Setting.....	4-1
4.2 Proposed Action.....	4-1
4.3 Section 4(f) Properties in the Project Area .....	4-2
4.3.1 Archaeological Resources.....	4-2
4.3.2 Architectural Resources .....	4-3
4.4 Impacts on Eligible Section 4(f) Properties .....	4-3
4.4.1 Effects on Archaeological Resources .....	4-3
4.4.2 Effects on Historic Architecture .....	4-4
4.4.3 Effects on 2965 and 2975 Pyramid Way, Sparks .....	4-4
4.4.4 Effects on Green Brae Terrace District, Sparks.....	4-5
4.5 Proposed Measures to Minimize Harm for the Green Brae Terrace District .....	4-6
4.6 Proposed Finding Related to Section 4(f) for the Green Brae Terrace District.....	4-6
<b>5. Coordination and Consultation .....</b>	<b>5-1</b>
5.1 Technical Advisory Committee .....	5-1
5.2 Public and Agency Scoping .....	5-1
5.3 Public Involvement .....	5-1
5.4 Participating Agencies .....	5-2
5.5 Public Information Meetings .....	5-2
5.6 Project Coordination .....	5-2
<b>6. List of Agencies, Organizations, and Persons to Whom Copies of the Environmental Impact Statement were Sent.....</b>	<b>6-1</b>
<b>7. List of Preparers .....</b>	<b>7-1</b>
<b>8. References.....</b>	<b>8-1</b>
<b>9. Index.....</b>	<b>9-1</b>

## **APPENDICES**

Appendix A – Procedures for Traffic Noise Abatement

Appendix B – Nevada State Historic Preservation Officer Correspondence

Appendix C – Participating Agency Correspondence

**Contents**

**TABLES**

Table ES-1 Existing Level of Service – Year 2010.....	1
Table ES-2 2035 Level of Service – No Build Alternative .....	4
Table ES-3 2035 Level of Service – Build Alternative (Preferred Alternative).....	7
Table ES-4 Summary of Mitigation Measures .....	12
Table 1-1 Existing Level of Service – Year 2010.....	1-6
Table 1-2 2035 Level of Service – No Build Alternative .....	1-7
Table 1-3 Total Crashes .....	1-8
Table 1-4 Comparison of Crash Data .....	1-8
Table 2-1 Summary of Impacts of Eliminated Alternatives .....	2-7
Table 2-2 2035 Level of Service – Build Alternative (Preferred Alternative) .....	2-14
Table 3-1 Resources Analyzed for Cumulative Impacts .....	3-2
Table 3.2-1 Noise Abatement Criteria.....	3-3
Table 3.2-2 Long-Term Noise Measurements .....	3-6
Table 3.2-3 Short-Term Noise Measurements.....	3-6
Table 3.2-4 Build Alternative Existing and Predicted Noise Levels and Soundwall Recommendations.....	3-7
Table 3.2-5 Analyzed and Recommended Soundwalls .....	3-11
Table 3.3-1 Population Growth, 1980-2010 .....	3-13
Table 3.3-2 Population by Age Group.....	3-14
Table 3.3-3 Racial Composition .....	3-14
Table 3.3-4 Occupied and Vacant Housing .....	3-15
Table 3.3-5 Residential and Nonresidential Acquisitions/Partial Acquisitions under the Build Alternative.....	3-22
Table 3.3-6 Nonresidential Displacement .....	3-26
Table 3.3-7 Construction Investment in the Pyramid Way and McCarran Boulevard Intersection Improvement Project (in millions of dollars, 2007).....	3-30
Table 3.3-8 Recently Completed/Current Major Developments in Northern Sparks.....	3-32
Table 3.3-9 Race and Ethnicity.....	3-35
Table 3.3-10 Median Income.....	3-36
Table 3.4-1 Summary of Anticipated Visual Impacts by Key Viewpoint and Alternative .....	3-53
Table 3.5-1 NRHP-Eligible Properties within the APE.....	3-58
Table 3.7-1 Construction Site Activities, Materials, and Associated Pollutants .....	3-73
Table 3.7-2 Existing Project Tributary Area within the Truckee Meadows Watershed.....	3-73
Table 3.7-3 Comparison of Existing and Proposed Impervious Surface Area for the Build Alternative.....	3-74
Table 3.7-4 Temporary Disturbed Soil Area for the Build Alternative.....	3-75
Table 3.7-5 NDOT BMP Categories .....	3-75
Table 3.10-1 National Ambient Air Quality Standards and Washoe County Attainment Status .....	3-81
Table 3.10-2 Peak-Hour Traffic Condition at Affected Intersections Existing Scenario and Horizon Year.....	3-83
Table 3.10-3 Localized CO Concentrations at the Affected Intersection – Year 2030 .....	3-83
Table 3.10-4 Roadway Segments Traffic Conditions – Horizon Year 2030.....	3-84
Table 3.12-1 Statewide and Project Emissions Potential, Relative to Global Totals .....	3-90
Table 4-1 NRHP-Eligible Properties within the APE.....	4-3

**FIGURES**

Figure ES-1 Build Alternative .....	6
Figure 1-1 Project Location .....	1-2
Figure 1-2 Project Limits .....	1-3
Figure 2-1 Direct Connection .....	2-4
Figure 2-2 Expanded At-Grade Intersection .....	2-5
Figure 2-3 Pyramid Way Grade Separation over McCarran Boulevard .....	2-6
Figure 2-4a Build Alternative (Preferred Alternative) .....	2-9
Figure 2-4b Build Alternative (Preferred Alternative) .....	2-10
Figure 2-4c Build Alternative (Preferred Alternative) .....	2-11
Figure 2-4d Build Alternative (Preferred Alternative) .....	2-12
Figure 3.2-1 Typical Sound Levels from Indoor and Outdoor Noise Sources .....	3-4
Figure 3.2-2 Noise Receptors and Recommended Soundwalls .....	3-12
Figure 3.3-1 Community Facilities .....	3-17
Figure 3.3-2 Census Tracts .....	3-19
Figure 3.3-3 Residential and Non-Residential Property Acquisitions .....	3-25
Figure 3.4-1 Northwest Quadrant Typical Views .....	3-41
Figure 3.4-2 Northeast Quadrant Typical Views .....	3-42
Figure 3.4-3 Southeast Quadrant Typical Views .....	3-43
Figure 3.4-4 Southwest Quadrant Typical Views .....	3-44
Figure 3.4-5 Key Viewpoint #5 .....	3-48
Figure 3.4-6 Key Viewpoint #7 .....	3-49
Figure 3.4-7 Key Viewpoint #12 .....	3-50
Figure 3.4-8 Preliminary Landscape Concepts .....	3-54
Figure 3.5-1 Area of Potential Effects .....	3-59
Figure 3.6-1 Active Hazardous Material Sites within the Proposed Project Boundaries .....	3-66
Figure 3.7-1 Hydrographic Area .....	3-72

This page intentionally left blank.

# ACRONYMS AND ABBREVIATIONS

---

°F	degrees Fahrenheit
AADT	annual average daily traffic
AAM	annual arithmetic mean
ACM	asbestos-containing material
ADA	Americans with Disabilities Act
ADT	average daily traffic
amsl	above mean sea level
APE	area of potential effects
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials
BMPs	Best Management Practices
BTU	British thermal units
BWPC	Bureau of Water Pollution Control
BWQP	Bureau of Water Quality Planning
CAA	Clean Air Act
CAC	Community Advisory Committee
CEM	Certified Environmental Manager
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	<i>Code of Federal Regulations</i>
CH <sub>4</sub>	methane
CLOMR	Conditional Letter of Map Revision
CO	carbon monoxide

**Acronyms and Abbreviations**

---

CO <sub>2</sub>	carbon dioxide
CSS	Context-Sensitive Solutions
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DSA	disturbed soil area
EIS	Environmental Impact Statement
EO	Executive Order
EPA	United States Environmental Protection Agency
EPP	Environmental Protection Plan
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FY	fiscal year
GHG	greenhouse gas
HHS	U.S. Department of Health and Human Services
HRIF	Historic Resources Inventory Form
I-80	Interstate 80
ISA	impervious surface area
LBP	lead-based paint
L <sub>eq</sub>	equivalent hourly sound level
LOMR	Letter of Map Revision



LOS	level of service
MEP	maximum extent practicable
MOVES	Motor Vehicle Emissions Simulator
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MSAT	mobile source air toxics
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NLR	No Longer Report
NNHP	Nevada Natural Heritage Program
NO <sub>2</sub>	nitrogen dioxide
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
NTE	not-to-exceed
NWP	Nationwide Permit
O <sub>3</sub>	ozone
Pb	lead

**Acronyms and Abbreviations**

---

PCBs	polychlorinated biphenyls
PM	particulate matter
PM <sub>2.5</sub>	particulate matter less than 2.5 microns in diameter
PM <sub>10</sub>	particulate matter less than 10 microns in diameter
POAQC	Project of Air Quality Concern
ppm	parts per million
RCB	reinforced concrete box
RCRA	Resource Conservation and Recovery Act of 1976
RE	Resident Engineer
REMSA	Regional Emergency Medical Services Authority
ROW	right-of-way
RSIC	Reno-Sparks Indian Colony
RTC	Regional Transportation Commission of Washoe County
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
SR	State Route
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TAC	Technical Advisory Committee
TMDL	total maximum daily load
TNM	Traffic Noise Model
U.S.C.	United States Code

US 395	United States Highway 395
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USGS	United States Geological Survey
VMT	vehicle miles traveled
WC-AQMD	Washoe County Health District Air Quality Management Division
WEF	Water Environment Federation
WQC	Water Quality Certification

This page intentionally left blank.

# EXECUTIVE SUMMARY

## ES-1 Introduction

The Regional Transportation Commission of Washoe County (RTC), in cooperation with the Nevada Department of Transportation (NDOT) and the Federal Highway Administration (FHWA), is studying operational improvements to the intersection of McCarran Boulevard (State Route [SR] 659) and Pyramid Way (SR 445) in Sparks, Washoe County, Nevada.

There is a need to improve traffic operations at this intersection, principally to improve the morning commuter traffic flow in the southerly and southerly to westerly directions (Pyramid Way to McCarran Boulevard and United States Highway 395 [US 395]), as well as the reverse flow from the west to the north in the afternoon peak period. Existing level of service (LOS) for the Pyramid Way and McCarran Boulevard intersection is shown in Table ES-1. LOS is the term used by traffic engineers to explain how effectively a roadway segment or intersection operates as perceived by the transportation system user. The six traffic levels of service range from LOS A (high speed and high capacity with minimal delay) to LOS F (low speed and no capacity with high levels of delay).

Table ES-1 Existing Level of Service – Year 2010					
Intersection Name	Approach Direction	Approach Delay (sec/veh)	Approach LOS	Intersection Delay (sec/veh)	Intersection LOS
AM Peak Hour					
Pyramid Way and McCarran Boulevard	EB	49.4	D	64.5	E
	WB	50.6	D		
	NB	31	C		
	SB	84.1	F		
PM Peak Hour					
Pyramid Way and McCarran Boulevard	EB	171.8	F	116.8	F
	WB	153.2	F		
	NB	61.8	E		
	SB	35.1	D		

Notes:

Approach Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from the same direction of travel during the peak hour. Intersection Delay is the calculated average delay (volume weighted by delay direction) in seconds for all vehicles entering the intersection from any of the four directions of travel during the peak hour. The LOS F conditions are shown in bold type.

EB – eastbound; NB – northbound; SB – southbound; WB – westbound; sec/veh – seconds per vehicle

Source: Parsons, 2012d.

Pyramid Way and McCarran Boulevard are both state highways classified as regional system arterials as part of the Regional Road System according to RTC's Regional Transportation Plan (RTP). According to the RTP, the Pyramid Way/McCarran Boulevard intersection ranks as one of the most congested in Washoe County, with traffic at LOS F during peak hours.

---

**Executive Summary**

---

This project is proposed to meet the short- and long-term transportation needs of the area in response to regional growth in a context-sensitive manner; therefore, the primary purpose of the proposed project is to:

Decrease traffic congestion at the Pyramid Way and McCarran Boulevard intersection to meet community-approved LOS standards as shown in the current RTP, defined as LOS E or better

There are three secondary purposes of the project:

Improve intersection safety

Enhance local access

Augment pedestrian and bicycle circulation

### **ES-1.1 Scoping and Public Involvement**

During the early project planning phases, a project initiation and information meeting was held May 9, 2006, at the Wadsworth Masonic Lodge. The information meeting was an “open house” meeting inviting the public to attend and to submit comments verbally to a court reporter or in writing. Attendees were given an overview of the project and were asked to identify issues and concerns with traffic operations at the intersection.

Following publication of the Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) in the *Federal Register* on September 4, 2007, RTC began the scoping process according to provisions of the National Environmental Policy Act (NEPA).

As part of the proposed project’s NEPA public involvement and participating agency coordination plan, a Community Advisory Committee (CAC) was formed. The CAC was comprised of residents living within the project area, local business owners, and other community leaders. The CAC provided the project team with their input on definition of purpose and need and alternatives development, as well as potential environmental impacts. The CAC met on October 18, 2007; January 30, 2008; February 27, 2008; and June 30, 2008.

As part of the NEPA scoping process, two public information workshops were held. The purpose of the two workshops was to obtain input on the proposed project purpose and need, and receive public comments on project alternatives. The first workshop was held at the Lazy 5 Community Center on April 29, 2008, for the Spanish Springs community. The second workshop was held at the Wadsworth Masonic Lodge near the Pyramid Way and McCarran Boulevard intersection on April 30, 2008.

An agency scoping meeting was held in Sparks, Nevada, on January 13, 2009. The attendees, representatives from public agencies, were given an overview of the project and were asked to present their agency’s concerns, special requirements, and information relative to the study process. Additional public information meetings were held throughout the project development process. Public meetings were “open house” meetings inviting the public to attend at their convenience and to submit comments verbally to a court reporter or in writing. A formal presentation was given, and a question and answer session followed the presentation. Meeting

notification was in the *Reno Gazette Journal*, RTC Web site ([www.rtcwashoe.com](http://www.rtcwashoe.com)), and by direct mail. Meetings included display boards and handout materials representing project alternatives and development processes, project overview, NEPA procedures, right-of-way (ROW) issues, schedules, and photographs.

These meetings were held on March 24, 2010; May 26, 2010; July 27, 2010; December 15, 2010; December 16, 2010; February 23, 2011; and April 20, 2011, at John Ascuaga's Nugget from 5:00 p.m. to 8:00 p.m.

### **ES-1.2 Participating Agencies**

On May 8, 2009, FHWA, in cooperation with NDOT and RTC, mailed invitations to key agencies with a direct interest in the Pyramid Way and McCarran Boulevard Intersection Improvement Project EIS to be involved as Participating Agencies in accordance with 23 *United States Code* (U.S.C.) Section 139. Involvement of the participating agencies was sought throughout all stages of the EIS for technical information, resolution of issues, and identification of specific review and approval requirements. The following agencies participated in the development of the EIS as participating agencies, and they have been involved throughout the project development process, including definition of the project's purpose and need; range of alternatives; and coordination with other regional projects:

- U.S. Environmental Protection Agency (EPA)
- Nevada State Historic Preservation Officer (SHPO)
- Washoe County
- City of Sparks

### **ES-2 Proposed Project and Alternatives**

As part of the project development process, RTC, NDOT, and FHWA formed a Technical Advisory Committee (TAC) to develop a range of improvement concepts for the Pyramid Way and McCarran Boulevard intersection. The TAC established the following categories of criteria to guide development of project alternatives and respond to project issues and concerns:

- Arterial Operations/Safety
- Design Features/Constructability
- Environmental
- Project Costs
- Neighborhood Accessibility

#### **ES-2.1 Summary of Alternatives Considered**

The alternatives screening process identified one build alternative (the Preferred Alternative) and the No Build Alternative to be carried forward and evaluated in detail in the Draft EIS. In 2009, an evaluation matrix was developed by the TAC to assess the No Build Alternative and the three Build Alternatives and to identify a Preferred Build Alternative. The Modified Expanded At-Grade Intersection was identified as the Preferred Alternative because it meets the project's purpose and need, is cost effective, and has moderate environmental and access impacts.

**Executive Summary**

**No Build Alternative**

The No Build Alternative would take no action to address the existing deficiencies (lack of adequate capacity to handle traffic demand) and safety concerns within the project limits. If the No Build Alternative was implemented, the Pyramid Way and McCarran Boulevard intersection would not be modified in any way. In particular, it is assumed that in all segments within the project boundary (Pyramid Way from Queen Way to York Way and McCarran Boulevard from Rock Boulevard to 4<sup>th</sup> Street), the existing pavement would not be widened, sidewalks would remain as they currently exist, and there would be no change in the current local street and driveway access pattern. Table ES-2 shows a detailed traffic analysis for the No Build Alternative.

Table ES-2 2035 Level of Service – No Build Alternative					
Intersection Name	Approach Direction	Approach Delay (sec/veh)	Approach LOS	Intersection Delay (sec/veh)	Intersection LOS
2035 AM Peak Hour					
Pyramid Way and McCarran Boulevard	EB	46.8	D	95.6	F
	WB	61.9	E		
	NB	32.1	C		
	SB	132.2	F		
2035 PM Peak Hour					
Pyramid Way and McCarran Boulevard	EB	162.0	F	136.4	F
	WB	271.0	F		
	NB	63.1	E		
	SB	43.0	D		

**Notes:**

To forecast 2035 traffic, a growth rate was developed using a straight line progression from the 2018 to 2030 traffic model runs. An average of the four roadway segments leading into the intersection was developed for the annual growth rate and applied to the 2030 volumes to estimate the 2035 design year traffic.

Approach Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from the same direction of travel during the peak hour. Intersection Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from any of the four directions of travel during the peak hour. The LOS F conditions are shown in bold type.

EB – eastbound; NB – northbound; SB – southbound; WB – westbound; sec/veh – seconds per vehicle

Source: Parsons, 2012d.

The LOS F conditions in the 2035 AM and PM peaks result from the lack of capacity for the heavy peak-hour traffic flows. The lack of capacity (i.e., insufficient through- and turn-lanes) causes traffic to back up, increasing the probability of drivers experiencing multiple red signal phases before passing through the intersection. This backup delays the driver, adds unnecessary travel time to daily trips, and increases crashes. The congestion in the 2035 PM peak is associated with the heavy eastbound-to-northbound left-turn queue. The AM queue is caused by the heavy southbound traffic flow, resulting in the LOS F congestion.



## **Build Alternative – Modified Expanded At-Grade Intersection (Preferred Alternative)**

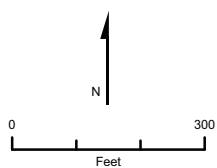
The Modified Expanded At-Grade Intersection Alternative would widen Pyramid Way to three lanes in each direction from a reconfigured Queen Way on the north to Tyler Way on the south (see Figure ES-1). McCarran Boulevard would remain two lanes in each direction. Operational improvements at the intersection would consist of additional turning lanes: eastbound McCarran Boulevard to northbound Pyramid Way; westbound McCarran Boulevard to southbound Pyramid Way; westbound McCarran Boulevard to northbound Pyramid Way; northbound Pyramid Way to westbound McCarran Boulevard; and southbound Pyramid Way to westbound McCarran Boulevard. Widening of Pyramid Way would occur on the east side to accommodate these improvements. Several ROW options were analyzed; however, widening to the east avoids impacts to historic properties and accommodates the intersection geometry. For the additional turning lanes on McCarran Boulevard at Pyramid Way, widening would be required on the north and south sides of McCarran Boulevard between Pyramid Way and 4<sup>th</sup> Street.

The existing Queen Way intersection would be redesigned to improve access to the surrounding neighborhoods by moving and reconfiguring the west leg to provide additional storage for eastbound travelers on Queen Way and discourage the use of Wedekind Road as a bypass; the east leg would remain at its current location and be a right-in/right-out intersection, with a raised median along the right-out lane through the west leg to discourage a three-lane weave and u-turn for drivers that want to go south on Pyramid Way. Additional improvements proposed as part of this project include extending the existing 5-foot-wide sidewalks throughout the project limits; adding a 5-foot-wide landscaped buffer/parkway strip between the sidewalks and the traveled way; and adding striped bicycle lanes on Pyramid Way from Queen Way to York Way and on McCarran Boulevard from Rock Boulevard to 4<sup>th</sup> Street. The additional ROW that would be available along the east side of Pyramid Way with the proposed improvements may allow room for a 10-foot-wide sidewalk and/or a wider buffer strip.





Source: Parsons 2011



### LEGEND

- Existing Right-of-way
- Proposed Right-of-way
- Proposed Fill Line
- Proposed Cut Line
- Proposed Roadway



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

**Preferred Alternative**  
Modified Expanded At-Grade Intersection

Figure ES-1



The 2035 traffic analysis for the Build Alternative (Preferred Alternative) is presented in Table ES-3. Traffic operations would improve to LOS D in the AM peak and LOS E in the PM peak with the Build Alternative.

Table ES-3 2035 Level of Service – Build Alternative (Preferred Alternative)					
Intersection Name	Approach Direction	Approach Delay (sec/veh)	Approach LOS	Intersection Delay (sec/veh)	Intersection LOS
2035 AM Peak					
Pyramid Way and McCarran Boulevard	EB	47.1	D	39.8	D
	WB	52.5	D		
	NB	30.9	C		
	SB	34.3	C		
2035 PM Peak					
Pyramid Way and McCarran Boulevard	EB	86.4	F <sup>1</sup>	67.7	E
	WB	82.2	F <sup>2</sup>		
	NB	54.1	D		
	SB	31.6	C		

Notes:

To forecast 2035 traffic, a growth rate was developed using a straight line progression from the 2018 to 2030 traffic model runs. An average of the four roadway segments leading into the intersection was developed for the annual growth rate and applied to the 2030 volumes to estimate the 2035 design year traffic.

Approach Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from the same direction of travel during the peak hour. Intersection Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from any of the four directions of travel during the peak hour. The LOS F conditions are shown in bold type.

EB – eastbound; NB – northbound; SB – southbound; WB – westbound; sec/veh – seconds per vehicle

<sup>1</sup> Another build alternative previously considered, the Direct Connection – Eastbound to Northbound Flyover ramp, could resolve this LOS F condition at the eastbound to northbound left-turn movement, but that alternative was eliminated from further consideration due to strong objections by the community (see Section 2.2.1).

<sup>2</sup> Adjusting of traffic signal timing could reduce this LOS F to LOS E in 2035.

Source: Parsons, 2012d.

## **ES-2.2 Alternatives Considered and Eliminated**

As detailed in Appendix A – Screening of Improvement Concepts in the *Design Alternatives Report* (Parsons, 2012b), the following improvement concepts were considered and eliminated by the TAC:

- Elevated Left Turns
- Single-Point Urban Interchange with McCarran Boulevard over Pyramid Way
- Direct Connection (Eastbound to Northbound Flyover Ramp)
- Continuous Flow Intersection
- Single-Point Urban Interchange with Pyramid Way over McCarran Boulevard
- Free-Flowing Interchange
- Modern Roundabout

**Executive Summary**

---

- Modern Roundabout with Flyover
- Narrow, Through-Lane Flyover
- Hybrid Intersection/Interchange
- Expanded At-Grade Intersection
- Rock Boulevard/Pyramid Way Couplet
- Pyramid Way Grade Separation over McCarran Boulevard

**ES-3 Summary of Environmental Impacts of the Preferred Alternative**

**ES-3.1 Socioeconomic and Environmental Justice**

Displacement of up to 75 single-family residential structures would potentially cause the relocation of approximately 203 persons residing in Sparks. Seven of these single-family structures, located on Lenwood Drive west of 4<sup>th</sup> Street, are not required for the physical construction of the improvements but are considered by RTC to be context-sensitive displacements. Removal of these residences would avoid leaving homes isolated in a “residential island” at completion of the project. Removal of these residences also allows for a continuous landscaped buffer and better overall aesthetic design. In addition, 3 businesses and 3 churches may be directly affected, displacing approximately 31 paid employees for the proposed project.

The study area comprises an Environmental Justice community based on its minority population percentages. Based on federal guidelines, the project study area does not contain a low-income community. Under the Build Alternative, the proposed project would directly and adversely impact minority population households because they are located within Census Block Groups that would experience displacements; however, these Block Groups contain more than two-thirds non-minority residents. Therefore, it is not expected that displacements would be predominantly experienced by minority population households or that they would be appreciably more severe or greater in magnitude than the adverse effects involving displacements that would be experienced by non-minority population households.

**ES-3.2 Traffic Noise**

A traffic noise analysis was conducted to determine the traffic noise impacts at exterior areas of frequent human use, to evaluate the performance of the existing walls, and to provide feasible and reasonable abatement measures for the proposed project’s design year of 2030. The largest project-related changes in traffic noise levels are predicted at sensitive receptor locations where roadway widening would eliminate intervening rows of houses, thereby increasing traffic noise exposure; however, traffic noise impacts were also identified at other locations that are currently exposed to high traffic noise levels and would remain so with implementation of the project. At impacted areas, the recommended soundwalls meet the criteria allowing use of Federal funds.

**Soundwall S83** would be located along the southbound side of Pyramid Way at the ROW line between corridor Stations 82+95 and 84+95. It would replace an existing 6-foot-high property wall at this location. At a height of 10 feet, the soundwall would achieve NDOT acoustical feasibility and cost reasonableness criteria at three residences represented by Receptors R45

through R47. Near its northern terminus, it would wrap around the southwest corner of the intersection at Emerson Way. At its southernmost point along the ROW line, it would extend westward along the southern boundary of the southernmost protected residence.

**Soundwall S91:** Soundwall S91 would be located along the southbound side of Pyramid Way at the ROW line between Stations 90+05 and 90+55. At a height of 6 feet, the soundwall would achieve NDOT acoustical feasibility and cost reasonableness criteria at a day-care center represented by Receptor R54. From its northernmost point along the ROW line, it would follow the northern property line to the west for approximately 20 feet. At its southernmost point, the soundwall would extend along the southern boundary of the protected property.

### **ES-3.3 Visual Resources**

Most of the proposed changes to the intersection area are related to the widening of the two roadways and inclusion of a triple left-turn lane from eastbound McCarran Boulevard to northbound Pyramid Way. The residences that back up to the east side of Pyramid Way, both north and south of the intersection, would be removed because the roadway widening generally occurs in that direction. Residences along the north and south sides of McCarran Boulevard, east of the intersection, would also be removed.

In addition to the new paving required in the locations where the existing residences are to be removed, privacy fencing and a sidewalk/pathway within a landscaped area are proposed.

### **ES-3.4 Cultural Resources**

**Archaeological Resources.** The archaeological assessment of the project's area of potential effects (APE) is negative, resulting in a "no historic properties affected" determination for archaeological impacts as set forth in 36 *Code of Federal Regulations* (CFR) 800. The Nevada SHPO concurred with this determination (see Appendix B).

**Historic Architecture.** Three hundred forty-six (346) parcels are included in the project's APE. Of these 346 parcels, 196 contain buildings, structures, or objects that were built during or before 1969. Two properties were determined individually eligible for listing on the National Register of Historic Places (NRHP), and a third property was determined to be treated as eligible as a district. The Nevada SHPO concurred (see Appendix B). FHWA finds that the Pyramid Way and McCarran Intersection Boulevard Intersection Improvement Project will have no adverse effect on historic properties as defined by 36 CFR 800.5(a)(1) because the project will not directly or indirectly diminish the integrity of any of the characteristics that qualify the three properties for inclusion in the NRHP (see Appendix B). SHPO concurrence with this determination will be requested after public review and comment of the Draft EIS.

### **ES-3.5 Hazardous Waste and Materials**

Hazardous or regulated wastes encountered during construction of the proposed project would result in unavoidable adverse impacts if the wastes are not managed properly and/or releases to the environment occur without appropriate cleanup.

Under the Build Alternative, houses along the east side of Pyramid Way and along the north and south sides of McCarran Boulevard would be acquired as part of the proposed intersection

---

**Executive Summary**

improvements. Prior to the acquisition of real property, a Phase 1 Environmental Site Assessment (ESA) could be conducted to identify the presence of hazardous materials. Hazardous and regulated materials surveys would be conducted to ascertain the conditions.

These houses would be demolished, potentially resulting in the generation of hazardous or regulated demolition debris associated with the building materials previously identified. If not handled and disposed of properly, the demolition debris wastes could contaminate the construction site, with potential worker or public exposure concerns.

### **ES-3.6 Water Quality**

Potential pollutant sources associated with the construction phase of the proposed project include construction activities and materials anticipated at the project site. Potential pollutants associated with the operation of transportation facilities include sediment from natural erosion; nutrients, such as phosphorus and nitrogen, associated with freeway landscaping, mineralized organic matter in soils, nitrite discharges from automobile exhausts, and atmospheric fallout; litter; and metals from the combustion of fossil fuels, the wearing of brake pads, and the corrosion of galvanized structures.

### **ES-3.7 Floodplains**

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Nos. 32031C3045G, 32031C3034G, 32031C3053G, and 32031C3061G, the project lies within Zone X Flood Hazard Area. Zone X is the flood insurance rate zone that corresponds to areas outside the 100-year floodplain or areas of 100-year sheet flow flooding where average depths are less than 1-foot.

### **ES-3.8 Biological Resources**

Construction would occur in existing ROW and areas of new ROW that have been previously developed. Approximately 28 acres of developed area would be disturbed during construction of the Build Alternative. Loss of existing landscaped vegetation would have a minor impact on resident wildlife (i.e., rodents and reptiles) that depend on it for forage and cover.

### **ES-3.9 Air Quality**

The Clean Air Act (CAA) requires areas of the country to be designated as either attainment or nonattainment for each of the criteria pollutants, based on whether compliance with the National Ambient Air Quality Standards (NAAQS) has been achieved. The proposed project corridor is located within Truckee Meadows and Hydrographic Area 87 (HA 87), which is a nonattainment area for particulate matter less than 10 microns in diameter (PM<sub>10</sub>) and maintenance for carbon monoxide (CO). The proposed project Build Alternative would improve traffic flow and reduce congestion and idling time at the affected intersections and along the roadway segments within the project limits and would reduce exhaust emissions of particulate matter (PM) compared to the No Build Alternative.

### **ES-3.10 Energy**

Under the Build Alternative, capacity and operational improvements would improve travel conditions and lead to more-efficient traffic operations. Although the Build Alternative would

not eliminate all capacity problems in 2030, it would substantially improve traffic operations. The Build Alternative would improve average travel speeds, thereby reducing average travel times during both peak hours. Improvements in traffic operations would contribute to reduced energy consumption, whether in the form of petroleum fuels or alternative sources of energy.

#### **ES-4 Areas of Controversy**

Residents of the Village Green neighborhood and parishioners of Immaculate Conception Catholic Church, both located in the northwest quadrant of the intersection, expressed concerns with potential access restrictions and ROW impacts to the church property. Additionally, the owner of the historic residence in the northwest quadrant of the intersection expressed similar concerns regarding access restrictions and potential acquisition of the property. Through a series of meetings with the residents, parishioners, and property owner, RTC has addressed their concerns by incorporating various design features and limiting ROW necessary for construction of the Build Alternative; however, the northbound left turn to Emerson Way and the Village Green neighborhood is eliminated by the proposed project.

#### **ES-5 Other Actions Required for the Project**

Several actions are required before construction could begin, including:

- Approval of this environmental document.
- FHWA will issue a single Final EIS and Record of Decision document pursuant to Pub. L. 112-141, 126 Stat. 405, Section 1319(b) unless FHWA determines statutory criteria or practicability considerations preclude issuance of the combined document pursuant to Section 1319.
- Property acquisition and residential or business relocations must be completed, in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended).
- Section 401 Water Quality Certification must be provided by the Nevada Division of Environmental Protection (NDEP), Bureau of Water Quality Planning. If construction equipment is required to enter any ephemeral stream channel, a Temporary Working in Waterways permit is required from NDEP, Bureau of Water Pollution Control.
- A Section 402 National Pollutant Discharge Elimination System (NPDES) Construction permit is required from NDEP.
- A Section 404 Permit for work involving the Orr Ditch.
- Contractor obtains all necessary permits for air quality requirements.
- Further consultation with the Nevada SHPO will be required to complete requirements under Section 106 of the National Historic Preservation Act (NHPA).

Responsibilities for the above actions that are identified as project mitigation measures are listed in Table ES-4.

#### **ES-6 Summary of Mitigation Measures**

Table ES-4 summarizes the mitigation measures that would be implemented as part of this project.

**Executive Summary**

<p style="text-align: center;"><b>Table ES-4 Summary of Mitigation Measures</b></p>			
<b>Responsible Party</b>	<b>EIS Page No.</b>	<b>Mitigation Category</b>	<b>Description</b>
FHWA, NDOT, RTC, and City of Sparks		Coordination	All agencies would continue project coordination to ensure that all project elements are accommodated and incorporated as needed between adjacent projects.
NDOT, RTC, and Contractor	3-10	Traffic Noise	Soundwalls will be constructed early in the project, as feasible, to mitigate construction noise as well as project-related traffic noise after completion.
Contractor	3-10	Construction Noise	Mitigation measures for construction noise will be addressed in the contract documents, which will require the contractor to submit a noise control plan for review and approval by RTC. Contract specifications will address hours of operation and noise-level limits. Construction specifications will require performance of proper maintenance on construction equipment and that stationary equipment be placed as far away from sensitive receptors as feasible.
FHWA, NDOT, and RTC	3-38	Socioeconomics	<p>The NDOT Right-of-Way Division, under provisions of the Uniform Act, will ensure that property owners that are directly impacted receive fair market value for the acquired ROW. Legally permitted property access will be perpetuated in the after condition. A full inventory of available relocation resources and a correlation with the units taken will be conducted and identified by NDOT Right-of-Way Division at the time of final appraisal and acquisition of ROW.</p> <p>It is the intent of NDOT and other involved agencies to ensure that:</p> <ul style="list-style-type: none"> <li>• No person in legal occupancy of properties within the project area will be required to vacate in less than 90 days, unless such vacation would be required for safety or health reasons.</li> <li>• No preacquisition residential occupant will be required to relocate until comparable decent, safe, and sanitary replacement housing has been made available.</li> <li>• No postacquisition occupant qualifying as low income will be required to relocate until adequate decent, safe, and sanitary housing has been made available within their financial means.</li> <li>• Prior to displacement, comparable or adequate replacement dwellings will be made available or provided for each eligible displaced person. Such availability or provision will be accompanied by an analysis of the relocation problems involved and a specific plan for their resolution.</li> <li>• No nonresidential displacee will be required to vacate without assistance in assessing their specific relocation needs or locating potential replacement properties.</li> <li>• All manner of notices required by the controlling laws will be provided to all persons displaced by the project.</li> <li>• Relocation payments will be in the amounts required by law for successful relocations.</li> <li>• The relocation procedures will be realistic and adequate to provide orderly, timely, and efficient relocation of displaced persons.</li> </ul>



**Table ES-4  
Summary of Mitigation Measures**

<b>Responsible Party</b>	<b>EIS Page No.</b>	<b>Mitigation Category</b>	<b>Description</b>
RTC and Contractor	3-38	Socioeconomics	<p>The following mitigation measures are proposed to reduce impacts to community character, public services, and pedestrian facilities:</p> <ul style="list-style-type: none"> <li>• The contractor and RTC will coordinate with the City, NDOT, and local emergency service providers in developing detour plans.</li> <li>• Emergency service providers will be given advance notice of road and sidewalk closures and detour routes.</li> <li>• The contractor will maintain local access and circulation to neighborhoods and businesses for pedestrians and motorists during construction.</li> </ul>
NDOT and RTC	3-55	Visual	<p>NDOT and RTC will continue to work with the community during final design to develop context-sensitive solutions (CSS) for the project improvements (e.g., sidewalks and landscaped buffers) through a formalized structure that allows for community input on construction plans including architectural detailing to soundwalls and privacy walls, (e.g., textures, colors, and patterns).</p>
FHWA, NDOT, and RTC	3-63	Cultural Resources	<p>An Agreement among FHWA, SHPO, NDOT, and RTC will be prepared to stipulate additional documentation for the district. As discussed in Section 3.5.5, no adverse effect is anticipated to occur to historic properties identified in the APE under the Preferred Alternative; however, the following activity has been proposed to document resources in the APE for the proposed undertaking:</p> <ul style="list-style-type: none"> <li>• Prepare a pamphlet, website, interpretive panel, or other educational material focusing on the development and evolution of Green Brae Terrace within the context of local history and architecture of the historic district.</li> <li>• Conduct an oral interview of a long-time Green Brae Terrace resident.</li> <li>• Add aesthetic treatments, such as landscaping and privacy walls.</li> <li>• Retention of as many mature trees as possible</li> </ul>
Contractor	3-68	Hazardous / Regulated Waste and Materials	<p>The construction contractor will have in place an Environmental Protection Plan (EPP) to include the management of hazardous materials and hazardous wastes in accordance with applicable local, state, and federal regulations. Prior to demolition of any houses, a Phase 1 ESA and a hazardous materials survey of those houses will be conducted to identify/confirm the locations and quantities of any hazardous materials. The Phase 1 ESA will be performed by a Nevada Certified Environmental Manager (CEM). The survey results will be used to develop the portions of the EPP relating to hazardous materials/hazardous waste management, transport, and disposal. Hazardous wastes generated at the project site will need to be analyzed in accordance with applicable U.S. Environmental Protection Agency (EPA) methods prior to disposal to determine disposal options.</p>

**Executive Summary**

<p style="text-align: center;"><b>Table ES-4 Summary of Mitigation Measures</b></p>			
<b>Responsible Party</b>	<b>EIS Page No.</b>	<b>Mitigation Category</b>	<b>Description</b>
Contractor	3-75	Water Quality	<p>The Contractor shall conform to current federal, State, and local regulatory requirements to minimize impacts to water resources and water quality, including conforming to the requirements of the NDOT Statewide Municipal Separate Storm Sewer System (MS4) Permit, NV0023329, in addition to employing Best Management Practices (BMPs) specified in the NDOT Storm Water Management Plan (SWMP); and preparing and implementing the Storm Water Pollution Prevention Plan (SWPPP).</p> <p>Section 401 Water Quality Certification must be provided by the Nevada Division of Environmental Protection (NDEP), Bureau of Water Quality Planning. If construction equipment is required to enter any ephemeral stream channel, a Temporary Working in Waterways permit is required from NDEP, Bureau of Water Pollution Control.</p> <p>A Section 402 National Pollutant Discharge Elimination System (NPDES) Construction permit is required from NDEP.</p> <p>The Contractor shall comply with all terms and conditions as specified in the US Army Corps of Engineers Section 404 permit.</p>
Contractor	3-80	Biological Resources	<p>A noxious weed management plan will be specified in the contract documents and implemented by the contractor to prevent noxious weeds from becoming established in the proposed project area during and after construction.</p>
Contractor	3-87	Air Quality	<p>Control measures will be according to permit and regulatory requirements. Operational control measures will be included in the project construction plans and specifications.</p>

# **1. PURPOSE AND NEED**

---

## **1.1 Introduction**

The Regional Transportation Commission of Washoe County (RTC), in cooperation with the Nevada Department of Transportation (NDOT) and the Federal Highway Administration (FHWA), is studying operational improvements to the intersection of McCarran Boulevard (State Route [SR] 659) and Pyramid Way (SR 445) in Sparks, Washoe County, Nevada. Figure 1-1 shows the project location, and Figure 1-2 shows the limits of the project.

There is a need to improve traffic operations at this intersection, principally to improve the morning commuter traffic flow in the southerly and southerly to westerly directions (Pyramid Way to McCarran Boulevard and United States Highway 395 [US 395]), as well as the reverse flow from the west to the north in the afternoon peak period.

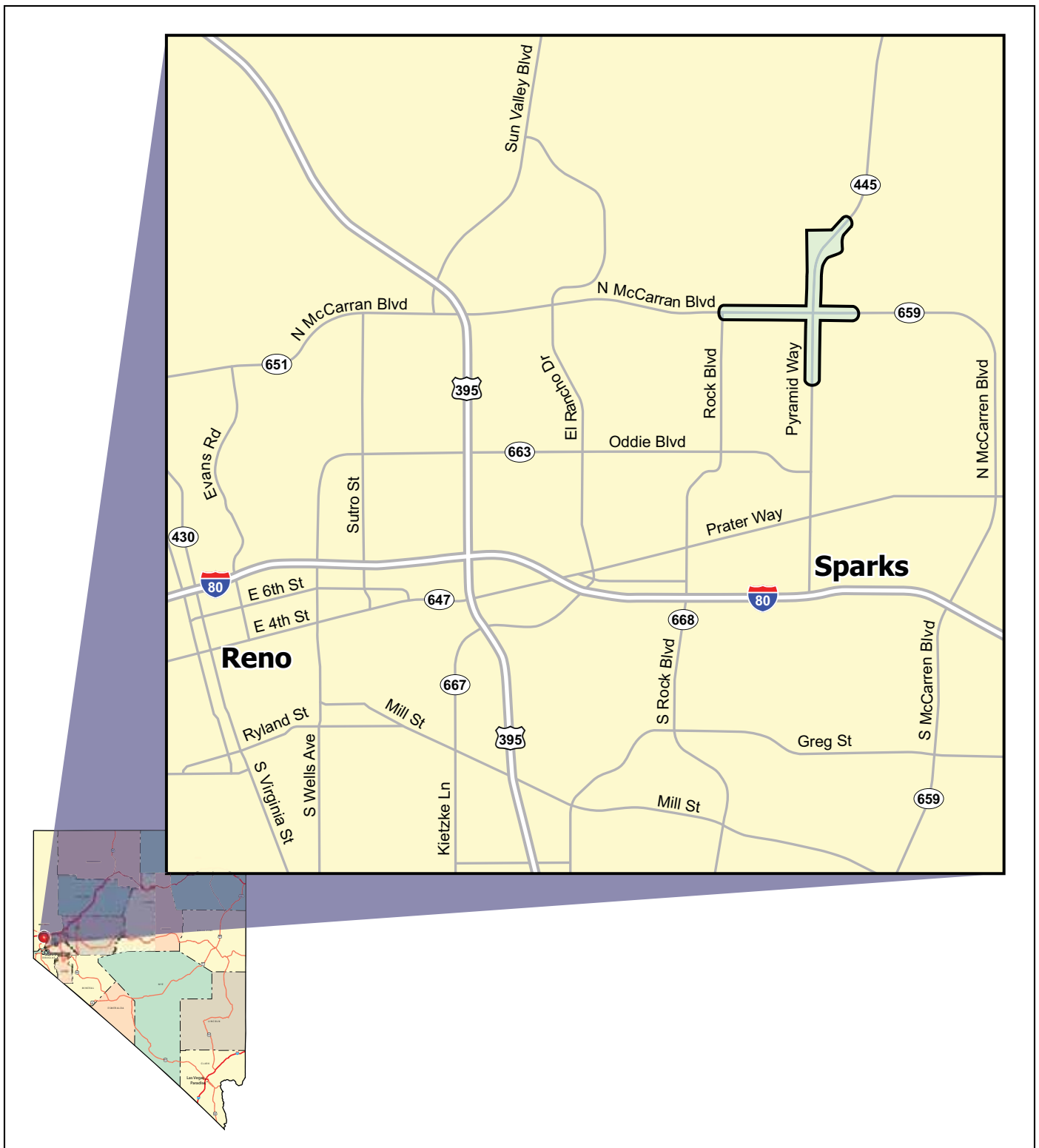
The Pyramid Way/McCarran Boulevard intersection serves the transportation needs of the communities in Washoe County and Sparks, Nevada. This intersection links commuters from unincorporated Washoe County and Sparks, an area encompassing approximately 80 square miles, to employment and service centers located within Reno and central Sparks. The current traffic congestion at this intersection necessitates improvement. The projected growth and subsequent increase in congestion requires additional improvements.

Pyramid Way and McCarran Boulevard are both state highways classified as regional system arterials as part of the Regional Road System according to the RTC's Regional Transportation Plan (RTP). These roads are direct connections between freeways and other arterials, ensure continuity throughout the region, and generally accommodate longer trips within the region, especially in the peak periods on high traffic volume corridors. According to the RTP, the Pyramid Way/McCarran Boulevard intersection ranks as one of the most congested in the area, with traffic levels of service (LOS) at LOS F during peak hours.

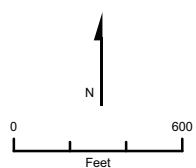
## **1.2 Project History**

The intersection of Pyramid Way and McCarran Boulevard lies at the southern end of Spanish Springs Valley, a residential/commercial area lying north and largely within the Sparks sphere of influence that has experienced rapid growth. Numerous land developments have been constructed, and many additional projects are entitled for development. These land developments generate and attract traffic that flows to/from central Sparks and Reno.

Given the concentration of traffic along the Pyramid Way corridor, transportation planning efforts have been underway since the mid-1990s to identify long-range needs for the corridor. These needs include widening the roadway to six through-traffic lanes, upgrading portions of the road to a freeway, constructing an east–west connector between Interstate 80 (I-80) and US 395 to serve as a “beltway” to bypass the congested confluence of these two freeways, and enhancing the capacity and operations of McCarran Boulevard, which today serves as an inner beltway around Reno and Sparks. The I-80/US 395 connector concept has evolved to the current Pyramid Highway and US 395 Connection Project, which is focusing on a freeway connection between Pyramid Highway and US 395 and upgrading Pyramid Highway to a freeway-level facility.



Source: Parsons 2011



# LEGEND

- Project Limits
- 659 Route Number

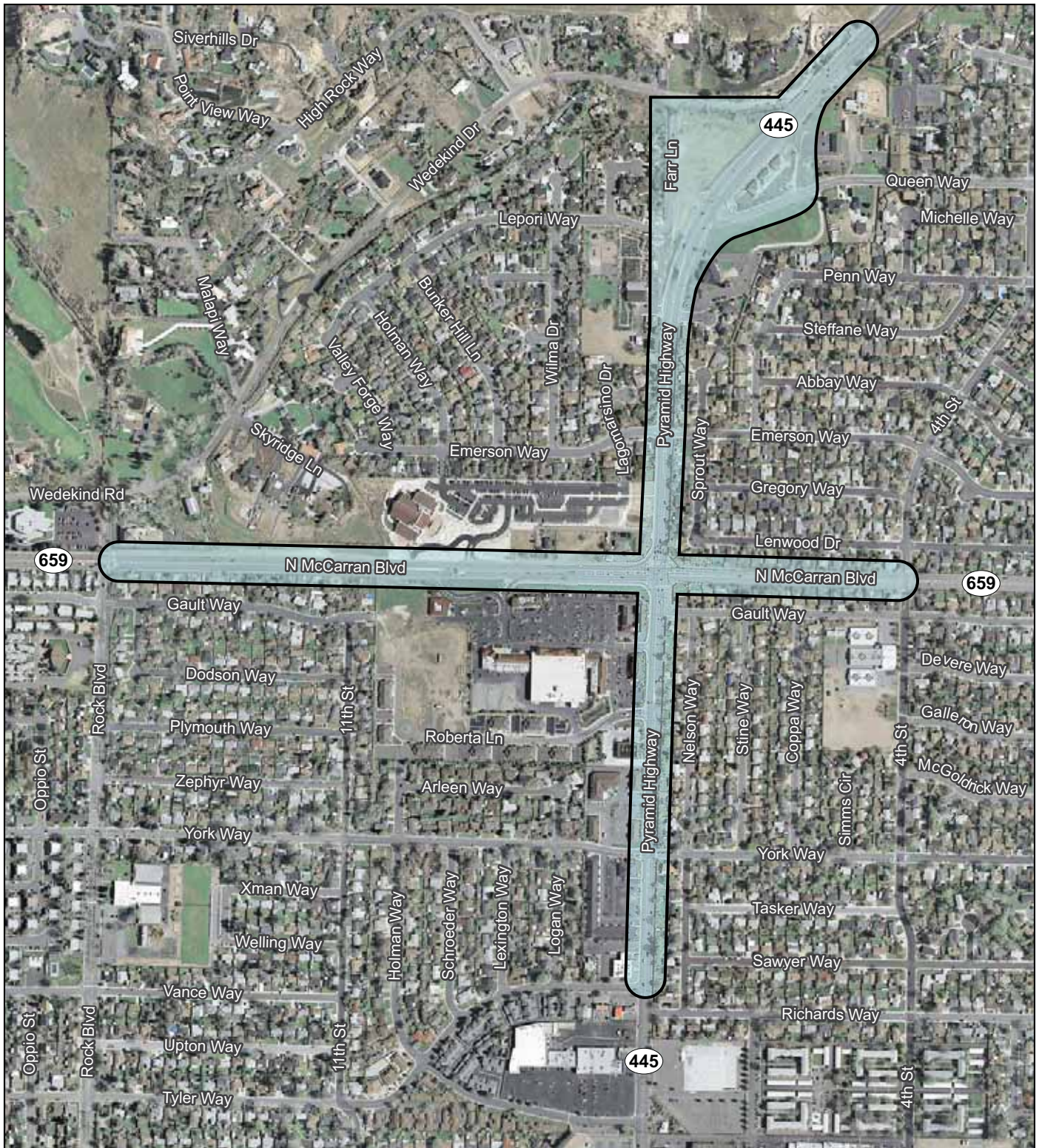


*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

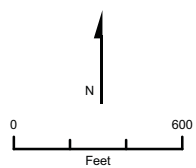
## Project Location

Figure 1-1





Source: Parsons 2011



### LEGEND

- Project Limits
- 659 Route Number



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

### Project Limits

Figure 1-2



## **1. Purpose and Need**

Transportation investment needs in Truckee Meadows far outstrip available funding. For example, construction of the Pyramid Highway/US 395 Connection Project is estimated to cost upwards of \$1 billion. Although the connection project now has an Environmental Impact Statement (EIS) document in preparation, the timing of this project is uncertain and the need for improving the existing congestion chokepoint at Pyramid Way and McCarran Boulevard continues to increase with the passage of time. Moreover, given the high cost of other regional long-range solutions listed in the RTP, improvements at Pyramid Way/McCarran Boulevard are needed to provide benefits for a full 20-year design life.

The improvements at Pyramid Way and McCarran Boulevard are a component of systemwide proposed projects within the region as identified in the RTP. These projects include widening Pyramid Highway north of the McCarran Boulevard intersection, Pyramid Highway/US 395 Connection Project, and intersection improvements along the McCarran Boulevard beltway. The proposed improvements at the Pyramid Way and McCarran Boulevard intersection would not preclude any other projects within the region.

Past studies that address this transportation corridor are briefly summarized below:

- **Pyramid Way Corridor Management Plan (November 2001)** – This plan studied regional transportation improvement needs in the northeast area of Truckee Meadows, geographically located east of US 395 and north of I-80. This study was refined in June 2007 to address the rapid growth in the Spanish Springs area and to identify right-of-way (ROW) preservation needs along the corridor.
- **I-80 to US 395 Connector Project Study (2003)** – This study determined that it was necessary to increase capacity and improve safety along Pyramid Way, and to find an alternative access to the existing freeway system other than traveling on Pyramid Way south of McCarran Boulevard.
- **Pyramid Highway and US 395 Connection Project (2006)** – This project is currently underway and is preparing an EIS for a freeway connection between US 395 and Pyramid Highway and the conversion of Pyramid Highway to a freeway-level facility located approximately 1.5 miles north of the Pyramid Way and McCarran Boulevard intersection.

### **1.3 Proposed Improvements**

Pyramid Way and McCarran Boulevard consist of two through lanes in each direction. The proposed improvements would widen Pyramid Way to three lanes in each direction from a reconfigured Queen Way to Tyler Way. McCarran Boulevard would remain two lanes in each direction. Operational improvements at the intersection consist of additional turning lanes: eastbound McCarran Boulevard to northbound Pyramid Way; westbound McCarran Boulevard to southbound Pyramid Way; westbound McCarran Boulevard to northbound Pyramid Way; northbound Pyramid Way to westbound McCarran Boulevard; and southbound Pyramid Way to westbound McCarran Boulevard. Widening of Pyramid Way and McCarran Boulevard would occur on the east and south sides, respectively, to accommodate these improvements. To accommodate the additional turning lanes on McCarran Boulevard at Pyramid Way, widening would be required on the north and south sides of McCarran Boulevard between Pyramid Way and 4<sup>th</sup> Street.

The existing Queen Way intersection would be redesigned to improve access to the surrounding neighborhoods by moving and reconfiguring the west leg to provide additional storage for eastbound travelers on Queen Way and reduce the use of Wedekind Road as a bypass; the east leg would remain at its current location and be a right-in/right-out intersection, with a raised median along the right-out lane through the west leg to discourage a three-lane weave and u-turn for drivers that want to go south on Pyramid Way. Additional improvements proposed as part of this project include extending the existing 5-foot-wide sidewalks throughout the project limits; adding a 5-foot-wide landscaped buffer/parkway strip between the sidewalks and the traveled way; and adding striped bicycle lanes on Pyramid Way through the intersection and on McCarran Boulevard from Pyramid Way to 4<sup>th</sup> Street. The additional ROW that would be available along the east side of Pyramid Way with the proposed improvements may allow room for a 10-foot-wide sidewalk and/or a wider buffer strip.

### **1.4 Purpose of the Project**

This project is proposed to meet the short- and long-term transportation needs of the area in response to regional growth in a context-sensitive manner; therefore, the primary purpose of the proposed project is to:

- Decrease traffic congestion at the Pyramid Way and McCarran Boulevard intersection to meet community-approved LOS standards as shown in the current RTP, defined as LOS E or better

There are three secondary elements for the purposes of the project:

- Improve intersection safety
- Enhance local access
- Augment pedestrian and bicycle circulation

### **1.5 Need for the Project**

The purpose for the project is based on the existing transportation needs and deficiencies in the Pyramid Way and McCarran Boulevard corridor, as described in the following sections.

#### **1.5.1 Traffic Operations**

LOS is the term used by traffic engineers to explain how effectively a roadway segment or intersection operates as perceived by the transportation system user. The six traffic levels of service range from LOS A (high speed and high capacity with minimal delay) to LOS F (low speed and no capacity with high levels of delay).

Intersections are one of the most important components to measure in terms of congestion. Existing LOS for the Pyramid Way and McCarran Boulevard intersection is shown in Table 1-1.

**1. Purpose and Need**

Table 1-1 Existing Level of Service – Year 2010					
Intersection Name	Approach Direction	Approach Delay (sec/veh)	Approach LOS	Intersection Delay (sec/veh)	Intersection LOS
AM Peak Hour					
Pyramid Way and McCarran Boulevard	EB	49.4	D	64.5	E
	WB	50.6	D		
	NB	31	C		
	SB	84.1	F		
PM Peak Hour					
Pyramid Way and McCarran Boulevard	EB	171.8	F	116.8	F
	WB	153.2	F		
	NB	61.8	E		
	SB	35.1	D		

**Notes:**

Approach Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from the same direction of travel during the peak hour. Intersection Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from any of the four directions of travel during the peak hour. The LOS F conditions are shown in bold type.

EB – eastbound; NB – northbound; SB – southbound; WB – westbound; sec/veh – seconds per vehicle

Source: Parsons, 2012d.

Using VISSIM, a traffic analysis model, traffic volumes for the intersection of Pyramid Way and McCarran Boulevard were calculated for the No Build Alternative in Year 2030. Year 2030 is the horizon year for the project as identified in the 2008 RTP. The 2030 no build traffic forecast assumes completion of all proposed projects in the 2008 RTP, including the Pyramid Highway/US 395 Connection Project, but without any improvements at the Pyramid Way/McCarran Boulevard intersection. To forecast 2035 traffic, a growth rate was developed using a straight line progression from the 2018 to 2030 traffic model runs. An average of the four roadway segments leading into the intersection was developed for the annual growth rate and applied to the 2030 volumes to estimate the 2035 design year traffic.

The 2035 traffic projections show an intersection LOS F for the morning peak hour and LOS F for the evening peak hour. Table 1-2 provides a detailed analysis of the traffic projected for this intersection.

Regionally, the Pyramid Way/McCarran Boulevard intersection is viewed as the congestion chokepoint that is constricting traffic flow in and out of the north Sparks area. Left unimproved, this intersection will impact a significant portion of north Sparks, including areas already developed and yet to be developed. The traffic forecasts indicate the Pyramid Way and McCarran Boulevard intersection will need major improvements even with the proposed improvements in the area such as the Pyramid Highway/US 395 Connection and the widening of Pyramid Way to the north and McCarran Boulevard to the west. The Pyramid Way and McCarran Boulevard Intersection Improvement Project is the cornerstone for transportation improvements in Sparks.



Table 1-2 2035 Level of Service – No Build Alternative					
Intersection Name	Approach Direction	Approach Delay (sec/veh)	Approach LOS	Intersection Delay (sec/veh)	Intersection LOS
2035 AM Peak Hour					
Pyramid Way and McCarran Boulevard	EB	46.8	D	95.6	F
	WB	61.9	E		
	NB	32.1	C		
	SB	132.2	F		
2035 PM Peak Hour					
Pyramid Way and McCarran Boulevard	EB	162.0	F	136.4	F
	WB	271.0	F		
	NB	63.1	E		
	SB	43.0	D		

**Notes:**

To forecast 2035 traffic, a growth rate was developed using a straight line progression from the 2018 to 2030 traffic model runs. An average of the four roadway segments leading into the intersection was developed for the annual growth rate and applied to the 2030 volumes to estimate the 2035 design year traffic.

Approach Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from the same direction of travel during the peak hour. Intersection Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from any of the four directions of travel during the peak hour. The LOS F conditions are shown in bold type.

EB – eastbound; NB – northbound; SB – southbound; WB – westbound; sec/veh – seconds per vehicle

Source: Parsons, 2012d.

Locally, as shown in Table 1-2, the LOS F condition in the 2035 AM and PM peaks, respectively, result from the lack of capacity for the heavy peak-hour traffic flows. The lack of capacity (i.e., insufficient through- and turn-lanes) causes traffic to back up, increasing the probability of drivers experiencing multiple red signal phases before passing through the intersection. This backup delays the driver, adds unnecessary travel time to daily trips, and increases crashes. The congestion in the 2035 PM peak is associated with the heavy eastbound-to-northbound left-turn queue. The AM queue is caused by the heavy southbound traffic flow, resulting in the LOS F congestion.

### **1.5.2 Safety**

Crash data was obtained from the City of Sparks Police Department and the NDOT Traffic and Safety Division for the Pyramid Way/McCarran Boulevard intersection. During the 6-year period from 2005 to 2010, 175 crashes occurred at this intersection. Approximately 130 (74 percent) of these crashes were rear-end collisions. An additional 8 percent were sideswipe collisions.

Rear-end and sideswipe collisions are associated with congested intersections experiencing heavy turning movements. Table 1-3 shows the annual number of crashes and the corresponding crash rate for the Pyramid Way/McCarran Boulevard intersection. These crash rates are a symptom of the congestion occurring at this intersection and provide a further indication of need for improvement action. The crash rate dropped slightly in 2007 and 2009 because the traffic volumes decreased on Pyramid Highway due to the economic downturn; however, the number of crashes and the crash rate increased slightly in 2010.

## 1. Purpose and Need

<b>Table 1-3 Total Crashes</b>		
<b>Year</b>	<b>Number of Crashes</b>	<b>Crash Rate*</b>
2005	18	0.70
2006	29	1.14
2007	23	0.85
2008	38	1.37
2009	32	1.22
2010	35	1.33

\*Crashes per million vehicles entering the intersection.

For comparison purposes, the crash rates of two intersections with similar traffic volumes, geometry, and functional classifications are presented below. As shown in Table 1-4, the Pyramid Way and McCarran Boulevard intersection crash rate is two to three times higher than similar intersections.

<b>Table 1-4 Comparison of Crash Data</b>				
	<b>McCarran Boulevard and Prater Way</b>		<b>McCarran Boulevard and Virginia Street</b>	
<b>Year</b>	<b>Number of Crashes</b>	<b>Crash Rate*</b>	<b>Number of Crashes</b>	<b>Crash Rate*</b>
2005	15	0.31	18	0.30
2006	9	0.19	20	0.36
2007	8	0.18	15	0.29
2008	29	0.71	19	0.38
2009	20	0.50	27	0.55
2010	14	0.37	23	0.48

\*Crashes per million vehicles entering the intersection.

### 1.5.3 Local Access

The AM traffic queue and LOS F congestion caused by the heavy southbound traffic flow contributes to egress problems from Emerson Drive, as well as the Queen Way intersection to the north. The PM peak queue also impacts eastbound through traffic and the westbound left-turn median access into the commercial center, as well as extending into the intersection of Rock Boulevard.

### 1.5.4 Pedestrian and Bicycle Circulation

There are no sidewalks along McCarran Boulevard except on the south side within approximately 700 feet west of Pyramid Way. The existing sidewalks in the project area have no landscaped buffer separating pedestrians from the high volumes of vehicular traffic traveling through the intersection on Pyramid Way and McCarran Boulevard. Furthermore, there is no parking along either Pyramid Way or McCarran Boulevard to protect pedestrians from adjacent traffic.

McCarran Boulevard, from Rock Boulevard to Pyramid Way, has bicycle lanes on either side, but there are no bicycle lanes on either side between Pyramid Way and 4<sup>th</sup> Street. There are no bicycle lanes on Pyramid Way within the project limits. The Bicycle and Pedestrian Element of the RTP includes future bike lanes along the full length of McCarran Boulevard and Pyramid Way within the urban area.

## **2. ALTERNATIVES**

---

This chapter describes the development of the proposed project, including a range of design alternatives. It documents the design alternatives considered, those eliminated from detailed evaluation, and project alternatives being studied in detail.

### **2.1 Identification of Potential Improvement Concepts**

As part of the project development process, RTC, NDOT, and FHWA formed a Technical Advisory Committee (TAC) in 2006 to develop a range of improvement alternatives/concepts for the Pyramid Way and McCarran Boulevard intersection. After extended consideration, the TAC established the following categories of criteria, in response to project issues and concerns, to guide the alternatives development process: Arterial Operations/Safety; Design Features/Constructability; Environmental; Project Costs; and Neighborhood Accessibility.

To assure that no improvement possibility would be dismissed prematurely, the initial screening of concepts by the TAC did not reject concepts based solely on construction costs, ROW needs, negative environmental effects, or constructability. Group discussion identified the following basic requirements for candidate concepts:

- Provide sufficient capacity to accommodate peak-hour vehicular traffic at LOS E or better through the 2030 planning horizon.
- Be compatible with overall regional transportation planning.
- Maintain local vehicular flows and property access.
- Accommodate pedestrians and bicyclists.
- Develop a design consistent with RTC, NDOT, and FHWA standards.
- Promote efficient and safe operations via user-friendly features (e.g., turn lanes and sidewalks).
- Facilitate winter maintenance.

As detailed in Appendix A – Screening of Improvement Concepts in the Design Alternatives Report (Parsons, 2012b), the following improvement concepts were identified and given consideration by the TAC:

- Elevated Left Turns
- Single-Point Urban Interchange with McCarran Boulevard over Pyramid Way
- Direct Connection (Eastbound-to-Northbound Flyover Ramp)
- Continuous Flow Intersection
- Single-Point Urban Interchange with Pyramid Way over McCarran Boulevard
- Free-Flowing Interchange
- Modern Roundabout
- Modern Roundabout with Flyover

## 2. Alternatives

---

- Narrow, Through-Lane Flyover
- Hybrid Intersection/Interchange
- Expanded At-Grade Intersection
- Rock Boulevard/Pyramid Way Couplet
- Pyramid Way Grade Separation over McCarran Boulevard

As a first screening effort, in February 2006, the TAC reviewed all of the concepts listed above and agreed that six concepts should be dismissed from further consideration. The concepts eliminated were:

- Single-Point Urban Interchange with McCarran Boulevard over Pyramid Way
- Single-Point Urban Interchange with Pyramid Way over McCarran Boulevard
- Free-Flowing Interchange
- Modern Roundabout
- Modern Roundabout with Flyover
- Narrow, Through-Lane Flyover

A discussion of why these concepts were dismissed from further consideration can be found in Appendix A of the *Design Alternatives Report* (Parsons, 2012b).

A secondary screening of the remaining concepts in March 2006 determined that the Elevated Left Turns; Continuous Flow Intersection; Hybrid Intersection/Interchange; and Rock Boulevard/Pyramid Way Couplet should be dismissed from further evaluation (see Appendix A of the *Design Alternatives Report*). While these concepts could be configured to accommodate the predicted arterial traffic at an acceptable LOS, they would create substantial negative impacts to local traffic movements and access. None of these concepts have a major advantage in terms of operational performance, magnitude of project costs, ROW needs, or minimization of overall environmental impacts.

Additional concepts considered by the TAC included public transportation and transportation management/intelligent transportation systems elements. These concepts were dismissed from further consideration as stand-alone alternatives since neither element meets the project's purpose and need (Parsons, 2012b). The 2008 – 2030 RTP addresses public transportation and transportation management/intelligent transportation systems for the region. The proposed Pyramid Way and McCarran Boulevard Intersection Improvements project, and specifically the Preferred Alternative (see Section 2.3.2), is consistent with the RTP.

### 2.2 Alternatives Eliminated from Further Consideration

Three potential alternative concepts were identified as a result of the March 2006 alternatives screening as deserving of more analysis. Based on additional analysis, the alternatives described below were eliminated from further consideration.

### **2.2.1 Direct Connection – Eastbound-to-Northbound Flyover Ramp**

The direct eastbound-to-northbound connector alternative would provide a single-lane, free-flow flyover ramp for the eastbound-to-northbound traffic and make needed intersection improvements for other traffic (see Figure 2-1). The direct connector would start in the McCarran Boulevard median east of Pyramid Way, rise between retaining walls with a 6 percent grade for approximately 700 feet, and continue on bridge structure over westbound McCarran Boulevard, eventually crossing southbound Pyramid Way on structure, before descending at 6 percent in the median between walls, and merging with the northbound Pyramid Way travel lanes. To achieve satisfactory traffic operations, the Pyramid Way and McCarran Boulevard intersection would be improved. Medians would be widened up to 12 feet to provide dual left-turn lanes on all approaches, except local eastbound-to-northbound movements would continue to be handled by the existing double-left-turn facility. Exclusive right-turn lanes would be provided in the northwest and southwest quadrants, with the southbound-to-westbound movement free-flow/yield-to-pedestrians.

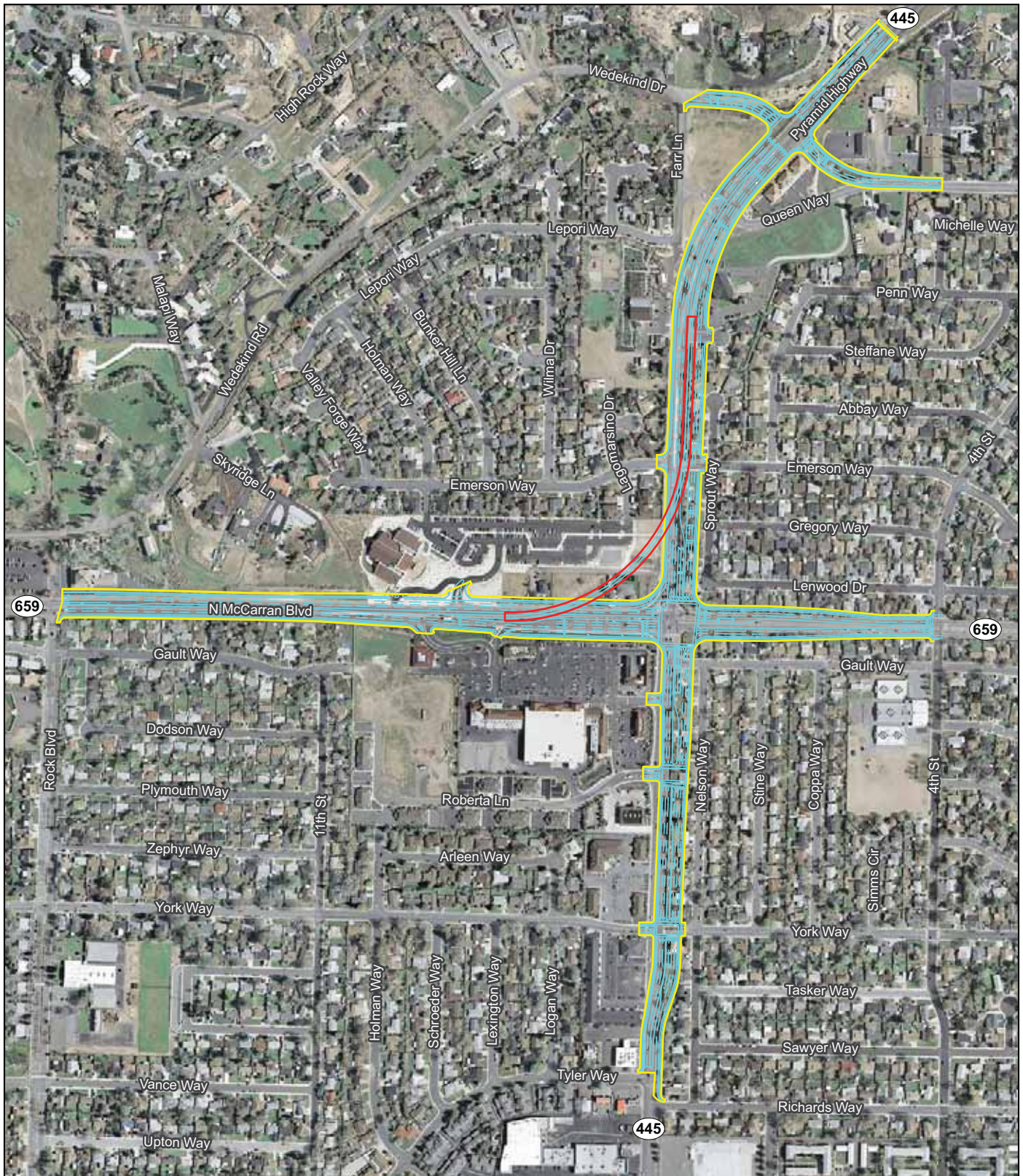
The Direct Connection Alternative received negative public reaction because of its close proximity to the Immaculate Conception Catholic Church education building. It would require acquisition and removal of the historic single-family residence on the northwest corner of the intersection, which would constitute the permanent use of a Section 4(f) property. The local residents also perceived the proposed flyover ramp as a negative visual impact to the neighborhood. *Consequently, the Direct Connection Alternative was eliminated from further consideration.* See Table 2-1 for a summary of impacts for this alternative.

### **2.2.2 Expanded At-Grade Intersection**

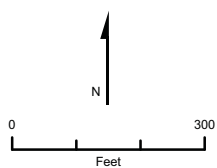
The expanded at-grade intersection concept would add lanes by widening the existing pavement (see Figure 2-2). Because this concept handles the heavy eastbound-to-northbound left-turn volumes at-grade with a triple left-turn installation (and not a flyover), that movement and the other left turns require more than 40 percent of the total available green signal time in the peak PM hour. Four lanes in each direction would be provided along Pyramid Way through the intersection, and three through lanes in each direction are required along McCarran Boulevard. Exclusive right-turn lanes are also needed in all four quadrants with this improvement concept to handle expected design-hour volumes at an acceptable LOS. With the expanded intersection, medians would be widened up to 12 feet to provide dual left-turn lanes on all approaches plus a triple left-turn lane for the eastbound-to-northbound movement. Exclusive right-turn lanes would be provided in all quadrants, with the southbound-to-westbound movement free-flow/yield-to-pedestrians.

Following the 2010 traffic analysis (see *Design Alternatives Report* (Parsons, 2012b) and *Traffic Report* (Parsons, 2012d), it was determined the number of lanes along Pyramid Way and McCarran Boulevard could be reduced and still accommodate the traffic at an acceptable LOS. The intersection geometry could be reduced from 8 to 6 lanes on Pyramid Way north of McCarran Boulevard (remaining at 6 lanes south of McCarran) and was reduced from 6 to 4 lanes on McCarran Boulevard west of Pyramid Way (remaining at 4 lanes east of Pyramid Way). *Therefore, the Expanded At-Grade Intersection Alternative was eliminated from further consideration in favor of the Modified Expanded At-Grade Intersection (Build Alternative).* See Table 2-1 for a summary of impacts for this alternative.





Source: Parsons 2011



### LEGEND

- Proposed Right-of-Way
- Bridge Structure
- Roadway Improvements
- XXX Route Number

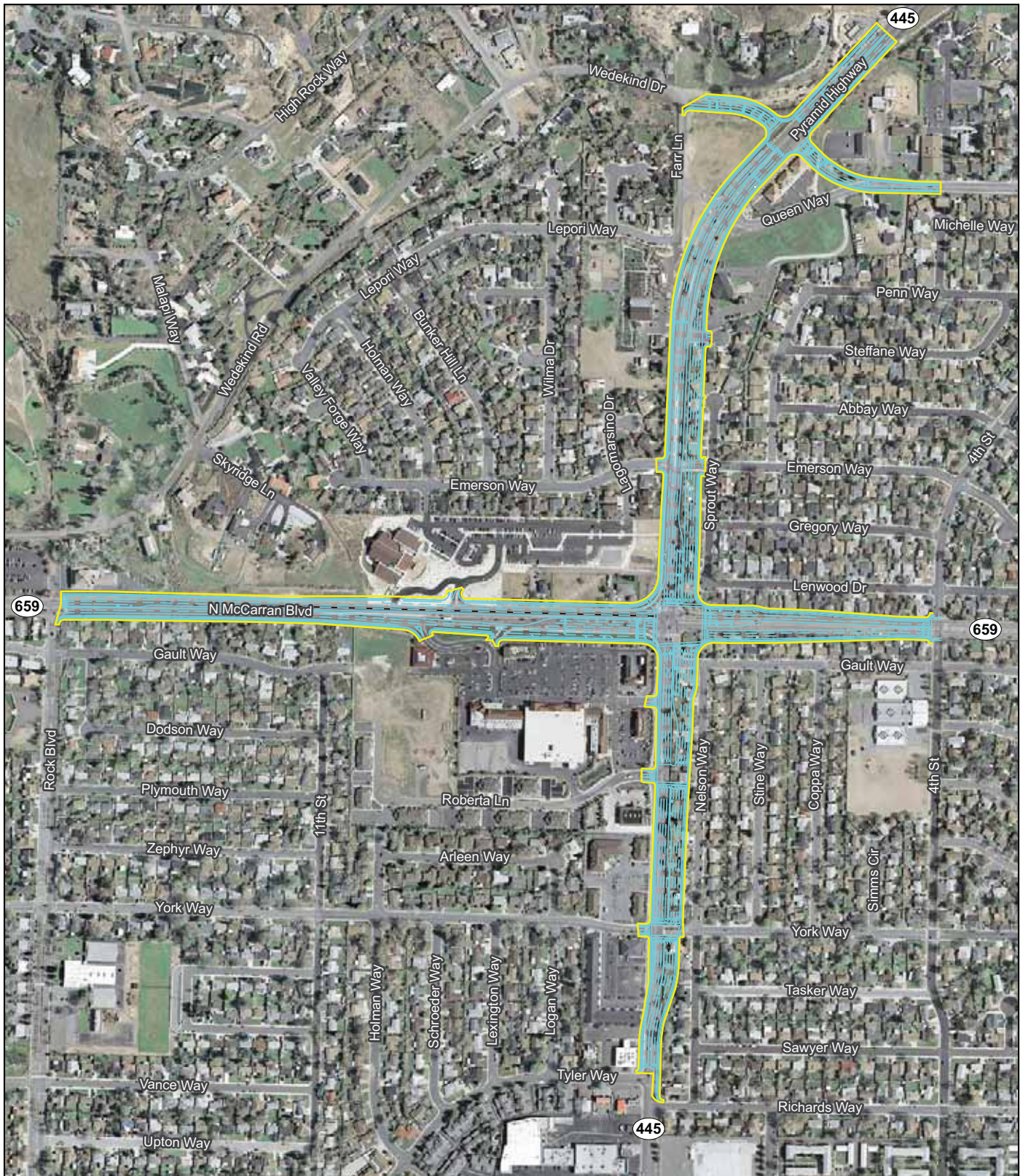


*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

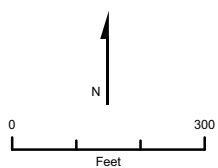
**Direct Connection  
(Eliminated Alternative)**

Figure 2-1





Source: Parsons 2011



# **LEGEND**

- Proposed Right-of-Way
- Roadway Improvements
- Route Number

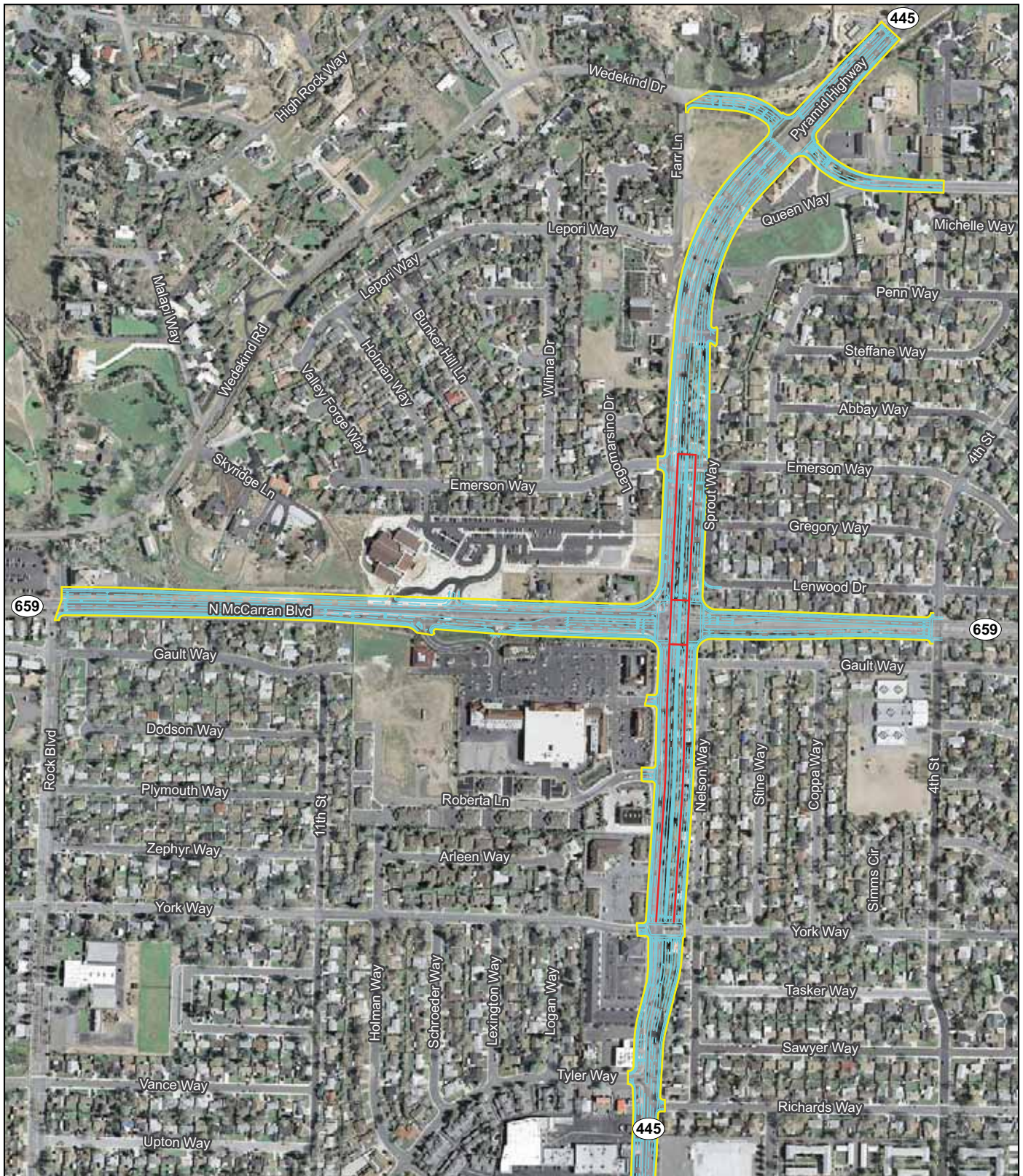


*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

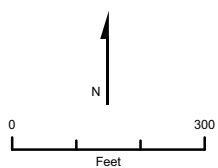
## **Expanded At-Grade Intersection (Eliminated Alternative)**

Figure 2-2





Source: Parsons 2011



#### LEGEND

- Proposed Right-of-Way
- Bridge Structure
- Roadway Improvements
- XXX Route Number



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

### Pyramid Way Grade Separation Over McCarran Boulevard (Eliminated Alternative)

Figure 2-3



### **2.2.3 Pyramid Way Grade Separation over McCarran Boulevard**

The grade separation alternative would have two through lanes in each direction on Pyramid Way to carry traffic over McCarran Boulevard (see Figure 2-3). Local lanes would handle traffic desiring to turn left or right onto or off McCarran Boulevard and could accommodate other local traffic that cannot physically take advantage of the grade-separated lanes. South of McCarran Boulevard, there would be two local lanes in each direction, and to the north there would be three lanes in each direction. Along McCarran Boulevard, modifications would be limited to adding a left-turn lane in each direction. The grade separation would begin just north of York Way, rise between retaining walls, and then bridge over the Pyramid Way/Roberta Way and Pyramid Way/McCarran Boulevard intersections. At the York Way intersection along Pyramid Way, two existing movements would have to be prohibited: the southbound left along the local lanes and the southbound right from the grade-separated through lanes.

The grade separation alternative would require grades in excess of 6 percent between York Way and Roberta Way, which would result in serious maintenance and inspection issues for the facility. An attempt was made to reduce the bridge grades by eliminating the traffic signal at Roberta Way; converting it to a right-in, right-out street; and providing a traffic signal controlled driveway for the shopping center on McCarran Boulevard. The Roberta Way/Pyramid Way traffic signal is a primary access to the shopping center on the southwest corner of Pyramid Way and McCarran Boulevard. Eliminating this access would negatively impact local residents' access to goods and services, and eliminating this access was not acceptable to the public. There was also public opposition to a bridge structure so close to residential properties. *Consequently, the Pyramid Way Grade Separation over McCarran Boulevard Alternative was eliminated from further consideration* (Parsons, 2012b). See Table 2-1 for a summary of impacts for this alternative.

### **2.2.4 Summary of Alternatives Eliminated**

The three potential alternative concepts that were eliminated would have similar impacts to each other and are in other respects substantially similar to the Build Alternative (Preferred Alternative). In many areas, the impacts of the eliminated alternatives are greater than the Preferred Alternative (see Chapter 3). While a detailed impact analysis was not prepared for these eliminated alternatives, a summary comparison for key resources is shown in Table 2-1.

<b>Table 2-1 Summary of Impacts of Eliminated Alternatives</b>			
<b>Resource</b>	<b>Direct Connection</b>	<b>Expanded At-Grade</b>	<b>Grade Separation</b>
Socioeconomic – Right-of-Way Acquisitions	Would acquire approximately 82 residential properties; approximately 8 nonresidential properties	Would acquire approximately 80 residential properties; approximately 8 nonresidential properties	Would acquire approximately 80 residential properties; approximately 8 nonresidential properties
Socioeconomic - Local Access and Circulation	Similar to Preferred Alternative	Would cause downstream traffic impacts on McCarran Boulevard (east and west of intersection) and Pyramid Way (south of intersection)	Would eliminate signalized access to the neighborhood shopping center
Visual Resources	Would alter visual character with addition of elevated structure	Would not include landscaped area as visual buffer <sup>2</sup>	Would alter visual character with addition of elevated structure
Cultural Resources - Historic Architecture	Would acquire 2 National Register of Historic Places (NRHP)-eligible properties	Similar to Preferred Alternative	Similar to Preferred Alternative

<sup>1</sup> The Preferred Alternative would acquire 75 residential properties and 8 nonresidential properties.

<sup>2</sup> The Preferred Alternative would allow for a landscaped area between the roadway and residential properties that would serve as a visual buffer.

## **2. Alternatives**

### **2.3 Alternatives Studied in Detail**

The alternatives screening process resulted in identification of one build alternative (Preferred Alternative) and the No Build Alternative to be carried forward and evaluated in detail in this EIS. In 2009, an evaluation matrix was developed by the TAC to narrow the choices from the No Build Alternative and the three Build Alternatives to a Preferred Build Alternative. The Modified Expanded At-Grade Intersection was identified as the Preferred Alternative. The Modified Expanded At-Grade Intersection was identified as the Preferred Alternative because it meets the project's purpose and need, is cost effective, and has moderate environmental and access impacts.

#### **2.3.1 No Build Alternative**

The No Build Alternative would take no action to address the existing deficiencies and safety concerns within the project limits. If the No Build Alternative was implemented, the Pyramid Way and McCarran Boulevard intersection would not be modified in any way. In particular, it is assumed that in all segments within the project boundary (Pyramid Way from Queen Way to York Way and McCarran Boulevard from Rock Boulevard to 4<sup>th</sup> Street), the existing pavement would not be widened, sidewalks would remain as they currently exist, and there would be no change in the current local street and driveway access pattern.

#### **2.3.2 Build Alternative – Modified Expanded At-Grade Intersection (Preferred Alternative)**

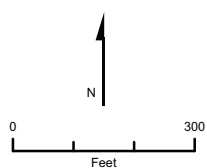
The Build Alternative (Preferred Alternative) would widen Pyramid Way to three lanes in each direction from a reconfigured Queen Way to Tyler Way (see Figures 2-4a through 2-4d). McCarran Boulevard would remain two lanes in each direction.

Operational improvements at the intersection consist of additional turning lanes: eastbound McCarran Boulevard to northbound Pyramid Way (triple left-turn lanes); westbound McCarran Boulevard to southbound Pyramid Way (double left-turn lanes); westbound McCarran Boulevard to northbound Pyramid Way (single right-turn lane); northbound Pyramid Way to westbound McCarran Boulevard (single left-turn lane); and southbound Pyramid Way to westbound McCarran Boulevard (single and, if demand exceeds capacity, potential double right-turn lanes). It is expected that the 1 left-turn lane, 3 through lanes, 1 right-turn lane (1L-3T-1R) southbound lane arrangement at Pyramid Way and McCarran Boulevard will operate at an acceptable LOS for many years. As volumes increase, the weave operation between westbound McCarran Boulevard traffic trying to access the Immaculate Conception Catholic Church and the southbound right-turn traffic may become problematic. Furthermore, if pedestrian volumes increase over the years, there may be concern for the safety of pedestrians crossing the southbound free right-turn lane. To address these potential issues, the southbound lane arrangement can be transitioned to a 1 left-turn lane, 2 through lanes, and 2 right-turn lanes (1L-2T-2R) configuration with minimal adjustments to the intersection geometry and without the need for additional ROW. This layout would provide a signalized pedestrian crossing of the dual southbound right-turn lanes (Parsons, 2012b) (see Figure 2-4b). Widening of Pyramid Way would occur on the east side to accommodate these improvements. Several ROW options were analyzed; however, widening to the east avoids impacts to historic properties and best accommodates the intersection geometry. To accommodate the additional turning lanes on





Source: Parsons 2011



### LEGEND

- Existing Right-of-way
- Proposed Right-of-way
- FILL --- Proposed Fill Line
- CUT --- Proposed Cut Line
- Proposed Roadway
- Match Line
- XXX Route Number

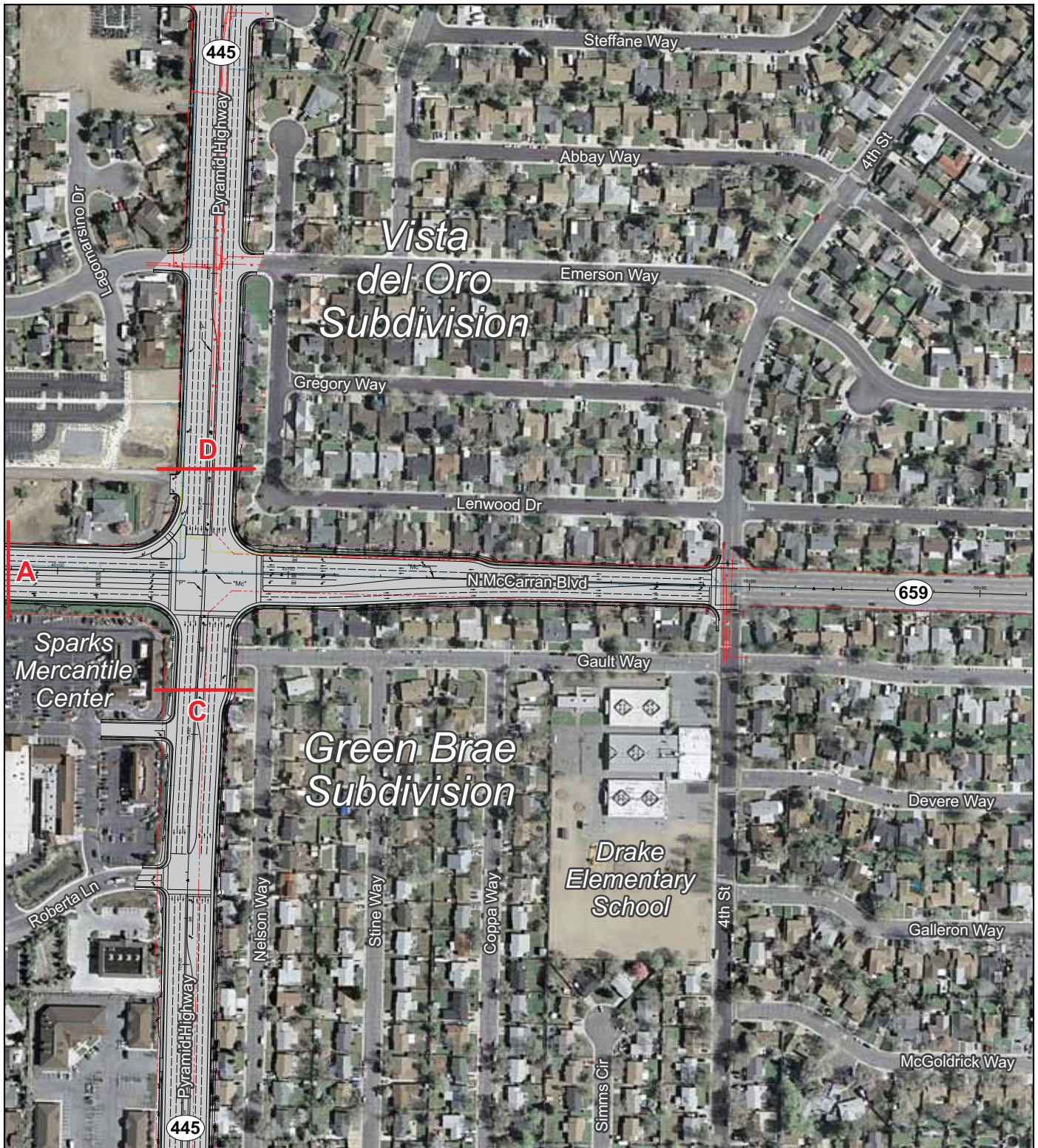


*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

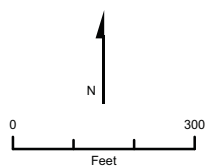
**Preferred Alternative  
Modified Expanded  
At Grade Intersection**

Figure 2-4a





Source: Parsons 2011



#### LEGEND

- Existing Right-of-way
- ... Proposed Right-of-way
- FILL — Proposed Fill Line
- CUT — Proposed Cut Line
- Proposed Roadway
- Match Line
- XXX Route Number



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

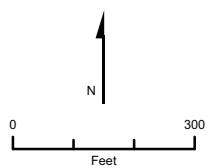
**Preferred Alternative  
Modified Expanded  
At Grade Intersection**

Figure 2-4b





Source: Parsons 2011



#### LEGEND

- Existing Right-of-way
- - - Proposed Right-of-way
- FILL — Proposed Fill Line
- CUT — Proposed Cut Line
- Proposed Roadway
- Match Line
- XXX Route Number



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

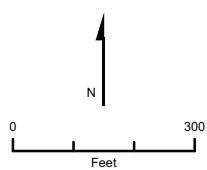
**Preferred Alternative  
Modified Expanded  
At Grade Intersection**

Figure 2-4c





Source: Parsons 2011



#### LEGEND

- Existing Right-of-way
- ... Proposed Right-of-way
- FILL — Proposed Fill Line
- CUT — Proposed Cut Line
- Proposed Roadway
- Match Line
- XXX Route Number



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

**Preferred Alternative  
Modified Expanded  
At Grade Intersection**

Figure 2-4d



McCarran Boulevard, the egress driveway onto McCarran Boulevard from the commercial center would be moved to the west. To accommodate the additional turning lanes on McCarran Boulevard at Pyramid Way, widening would be required on the north and south sides of McCarran Boulevard between Pyramid Way and 4<sup>th</sup> Street.

The existing Queen Way intersection would be redesigned to improve access to the surrounding neighborhoods by moving and reconfiguring the west leg to provide additional storage for eastbound travelers on Queen Way and discourage the use of Wedekind Road as a bypass; the east leg would remain at its current location and be a right-in/right-out intersection, with a raised median along the right-out lane through the west leg to discourage a three-lane weave and u-turn for drivers that want to go south on Pyramid Way. Existing street intersections on Pyramid Way at Tyler Way, York Way, Roberta Lane, and Mercy Court would be maintained at their current locations, with minor adjustments to accommodate the added lanes on Pyramid Way. The existing intersection at Pyramid Way and Gault Way would be eliminated because it is in conflict with the proposed north to east right-turn lane. Access to the properties east of Pyramid Way on Gault Way would be provided via 4<sup>th</sup> Street. The median at the Emerson Way intersection would be closed to create a right-in, right-out configuration on both the east and west legs of Emerson Way. This is to prevent opposing north to west left turns from Emerson Way to cross three lanes of traffic on Pyramid Way.

The existing roadway serves as a utility corridor for many of the local area utility companies. It is anticipated that most of the utility relocations would take place as part of the general construction of the roadway improvements, and that the construction schedule would accommodate typical shutdown and relocation durations. Relocation of the overhead power lines could be performed prior to beginning the main project construction with the caveat that all ROW would be cleared before relocation occurred (Parsons, 2012b).

Additional improvements proposed as part of this project include extending the existing 5-foot-wide sidewalks throughout the project limits; adding a 5-foot-wide landscaped buffer/parkway strip between the sidewalks and the traveled way; and adding striped bicycle lanes on Pyramid Way from York Way to Queen Way and on McCarran Boulevard from Rock Boulevard to 4<sup>th</sup> Street. The additional ROW that would be available along the east side of Pyramid Way with the proposed improvements may allow room for a 10-foot-wide sidewalk and/or a wider buffer strip. The sidewalks will comply with all current Americans with Disabilities Act (ADA) design standards.

Residents of the Village Green neighborhood and parishioners of Immaculate Conception Catholic Church, both located in the northwest quadrant of the intersection, expressed concerns with potential access restrictions and ROW impacts to the church property. Additionally, the owner of the historic residence in the northwest quadrant of the intersection expressed similar concerns regarding access restrictions and potential acquisition of the property. Through a series of meetings with the residents, parishioners, and property owner, RTC has addressed their concerns by incorporating various design features and limiting ROW necessary for construction of the Build Alternative

The 2035 traffic analysis for the Build Alternative (Preferred Alternative) is presented below in Table 2-2.

## 2. Alternatives

Table 2-2 2035 Level of Service – Build Alternative (Preferred Alternative)					
Intersection Name	Approach Direction	Average Delay (sec/veh)	Approach LOS	Intersection Delay (sec/veh)	Intersection LOS
2035 AM Peak					
Pyramid Way and McCarran Boulevard	EB	47.1	D	39.8	D
	WB	52.5	D		
	NB	30.9	C		
	SB	34.3	C		
2035 PM Peak					
Pyramid Way and McCarran Boulevard	EB	86.4	F <sup>1</sup>	67.7	E
	WB	82.2	F <sup>2</sup>		
	NB	54.1	D		
	SB	31.6	C		

**Notes:**

To forecast 2035 traffic, a growth rate was developed using a straight line progression from the 2018 to 2030 traffic model runs. An average of the four roadway segments leading into the intersection was developed for the annual growth rate and applied to the 2030 volumes to estimate the 2035 design year traffic.

Approach Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from the same direction of travel during the peak hour. Intersection Delay is the calculated average delay (volume weighted delay by direction) in seconds for all vehicles entering the intersection from any of the four directions of travel during the peak hour. LOS F conditions are shown in bold type.

EB – eastbound; NB – northbound; SB – southbound; WB – westbound; sec/veh – seconds per vehicle

<sup>1</sup> Another build alternative previously considered, the Direct Connection – Eastbound to Northbound Flyover ramp, could resolve this LOS F condition at the eastbound to northbound left-turn movement, but that alternative was eliminated from further consideration due to strong objections by the community (see Section 2.2.1).

<sup>2</sup> Adjusting traffic signal timing could reduce the LOS F to LOS E in 2035.

Source: Parsons, 2012d.

## 2.4 Project Funding

Funding for the Pyramid Way and McCarran Boulevard Intersection Improvement Project has been identified in the Regional Transportation Improvement Program (RTIP) fiscal year (FY) 2011-2015, which was approved May 20, 2011. Seventy-one million dollars (\$71 million) has been programmed for the engineering/design, ROW, and construction of all proposed improvements.

### **3. AFFECTED ENVIRONMENT, ENVIRONMENTAL IMPACTS, AND MITIGATION**

---

#### **3.1 Introduction**

This chapter provides a description of the affected environment for the Build Alternative and No Build Alternative. The discussion contains study methodologies, background information, and analysis of project impacts and mitigation measures.

Probable beneficial and adverse social, economic, and environmental effects of the alternatives under consideration are described. The information provides a basis for evaluating the comparative merits of the alternatives and for identifying the preferred alternative. Mitigation measures are identified to reduce impacts from the proposed Build Alternative.

This EIS was prepared consistent with the National Environmental Policy Act (NEPA) of 1969 and the Council of Environmental Quality (CEQ) implementing regulations (40 *Code of Federal Regulations* [CFR] 1500 *et seq.*), and with FHWA's *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (FHWA Technical Advisory T 6640.8A, October 30, 1987). This guidance lists potentially adverse impacts most commonly encountered by highway projects and directs that these factors should be discussed for each reasonable alternative where a potential for impact exists. Environmental and socioeconomic factors that were found to have no potential for project-related impacts and are not discussed in this chapter are as follows:

- Wetlands
- Farmland
- Wild and Scenic Rivers
- Coastal Barriers
- Coastal Zone Impacts

The following technical reports were prepared in support of the Pyramid Way and McCarran Boulevard Intersection Improvement Project Draft EIS and are included on the attached disk:

- Traffic Report (Parsons, 2012d)
- Design Alternatives Report (Parsons, 2012b)
- Traffic Noise Impact Assessment (Parsons, 2012e)
- Community Impact Assessment (Parsons, 2011b)
- Acquisition/Relocation Plan (Property Specialists, Inc., 2011)
- Visual Impact Assessment (Parsons, 2011e)
- Archaeological Resources (Parsons, 2011a)
- Historical Architectural Survey Report (Parsons, 2012c)
- Finding of Effect (Parsons, 2012f)
- Air Quality Assessment (Parsons, 2012a)

- Hazardous Waste and Material Technical Memorandum (Parsons, 2011d)
- Water Resources Technical Memorandum (Parsons, 2011f)
- Floodplains Technical Memorandum (Parsons, 2011c)

NEPA requires that the potential direct, indirect, and cumulative impacts of a federal-funded or approved project be identified and evaluated. Within the context of NEPA, indirect effects are defined by the CEQ as impacts that are “caused by an action and are later in time or further removed in distance but are still reasonably foreseeable” (40 CFR 1508.8). Cumulative impacts are defined as (the impact on the environment which results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions...) (40 CFR 1508.7). Logically, if a given project does not *directly* or *indirectly* impact a particular environmental factor/resource, then that project would not contribute to a *cumulative* impact on the resource. Table 3-1 identifies the resources that are analyzed for cumulative impacts as a result of the technical studies that were prepared and discussed in Chapter 3.

<b>Table 3-1 Resources Analyzed for Cumulative Impacts</b>		
<b>Resource</b>	<b>Cumulative Impacts Assessed?</b>	<b>Comment</b>
Traffic Noise	No	Pyramid Way and McCarran Boulevard are the dominant noise sources and will remain so in the future. Cumulative noise impacts cannot be meaningfully compared or evaluated due to the difficulty in quantifying the noise from past projects.
Socioeconomics	Yes	Cumulative impacts are discussed in Section 3.3.5.
Environmental Justice	No	The project would not have a disproportionately adverse impact on an environmental justice population; therefore, there is no need to consider cumulative impacts.
Visual Resources	No	The improvements at the intersection would not substantially alter existing views and would not contribute to a cumulative impact to visual resources.
Cultural Resources	No	The project would not impact archaeological resources and would have no adverse effect on historic properties. Additionally, private and nonfederal actions generally have not been required to investigate impacts to historic properties. Without documentation of past development on historic properties, it is not possible to draw meaningful conclusions about cumulative impacts on historic properties.
Hazardous Waste and Materials	No	The project would not result in impacts to hazardous waste and materials.
Water Quality	No	The project would not impact water quality; therefore, it does not contribute to cumulative water quality impacts.
Floodplains	No	There would be no impacts to floodplains; therefore, the project would not contribute to cumulative impacts.
Biological Resources	No	Due to the urban project setting, the project would not result in impacts to biological resources.
Air Quality	No	The proposed project would not violate any air quality standards.
Energy	No	The effect of transportation projects on energy use is primarily the use of fossil fuels. Data on the fuel use of past and future projects is not readily available.



## **3.2 Traffic Noise**

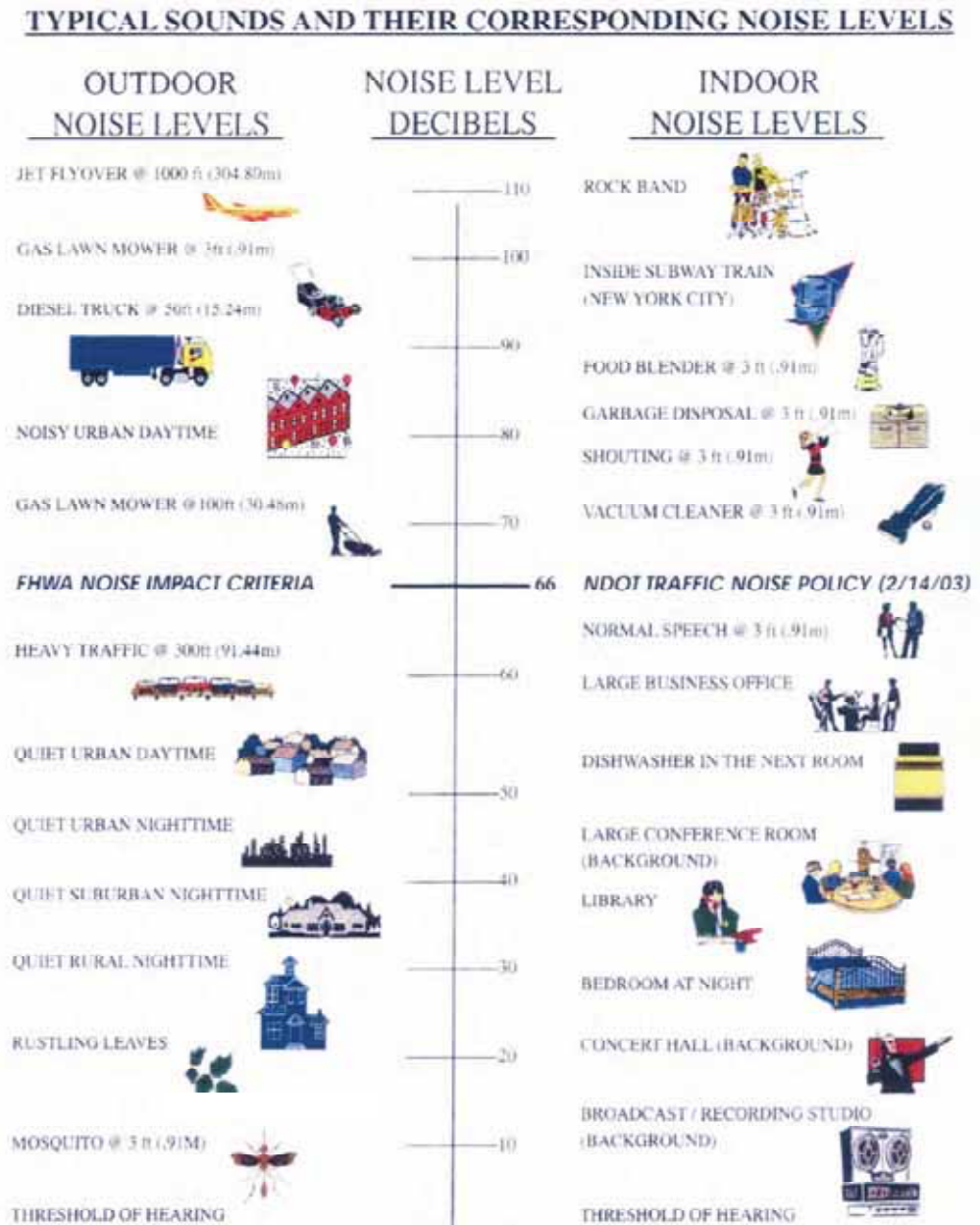
### **3.2.1 Federal and State Policies and Procedures**

The traffic noise impact evaluation criteria for this project are in agreement with the noise abatement criteria (NAC) established by FHWA (FHWA, 2010) in the *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (23 CFR Part 772) and adopted by NDOT in the *Traffic and Construction Noise Abatement Policy* (NDOT, 2011). FHWA NAC are reproduced in Table 3.2-1, where noise limits for different land uses are defined using equivalent hourly sound levels ( $L_{eq}$ ).  $L_{eq}$  represents an average of the sound energy occurring over a specified period. Figure 3.2-1 shows typical  $L_{eq}$  noise levels.

<b>Table 3.2-1 Noise Abatement Criteria</b>		
<b>Activity Category</b>	<b>Noise Abatement Criteria <math>L_{eq}</math>, dBA</b>	<b>Description of Activity Category</b>
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Residential.
C	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day-care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day-care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A through D or F.
F	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	Undeveloped lands that are not permitted.

Source: 23 CFR Part 772, 2010.

Under FHWA regulations, noise abatement measures must be considered when the predicted traffic noise levels “approach or exceed” the NAC or when the predicted noise levels “substantially exceed” existing noise levels, and it is reasonable and feasible to abate. NDOT defines the term “approach” for the purposes of traffic noise analysis on new highway construction or reconstruction projects as 1-decibel (dB) less than the NAC; therefore, traffic noise abatement is considered when predicted future outdoor traffic noise levels from the proposed project at residential land uses, parks, schools, and hospitals are 66 dB or higher. Furthermore, NDOT defines “substantially exceed” as a 15-dBA (A-weighted decibel) noise-level increase from the existing ambient noise levels.



**Figure 3.2-1 Typical Sound Levels from Indoor and Outdoor Noise Sources**

NDOT considers a traffic noise abatement measure, such as a soundwall that abates at least 5 dB for 75 percent of the first, or front, row of impacted receptors (residents), as acoustically feasible. Three criteria are used to evaluate the reasonableness of abatement being considered: the points-of-view of the benefited property owners who may be opposed to the construction of a noise barrier, the cost effectiveness of the abatement measure, and the noise reduction design goal. NDOT has defined the traffic noise reduction design goal as 7 dB.

Cost effectiveness is one of the major factors typically considered in determining the reasonableness of any proposed noise abatement. In assessing cost effectiveness, NDOT uses \$40,000 per benefited unit of sensitive land use.

### **3.2.2 Existing Conditions**

Current noise sources within the project area primarily consist of traffic on Pyramid Way and McCarran Boulevard. There are existing property/privacy walls and soundwalls within the study area. As presented under the visual resource mitigation, these existing walls will be replaced in-kind as needed and were reflected in this analysis. This analysis also considers residences currently separated from project roadways by intervening rows of homes, but that would become first-row receptors after property acquisitions required for project implementation. Under existing conditions, the intervening rows of homes and greater horizontal distances from the project corridor result in a reduction in traffic noise levels at these locations; however, as part of the visual resource mitigation, property/privacy walls would be installed and were considered in this analysis.

Long-term noise measurements (24 hours or more in duration) were conducted at seven locations, and short-term noise measurements (15 to 20 minutes in duration) were conducted at five different locations. These selected sites are considered acoustically representative of other noise-sensitive land uses in the areas surrounding the measurement locations. These measurement sites were at either the existing first-row residences or residences that would become first row after the houses in front of them are demolished. Long-term noise measurements were also used to establish the peak noise hour at the various locations of the study area. If short-term noise measurements were conducted within the identified peak noise hours, they were used as is; however, if they were conducted outside the peak noise hour, then they were adjusted to the peak noise hour using nearby representative long-term noise measurement results. Figure 3.2-2 identifies long-term noise measurement sites as LT and short-term noise measurement sites as ST.

Table 3.2-2 presents the long-term measurement results. The table shows the street address of each measurement site, the dates and start time for each measurement, and the measured loudest-hour noise levels. Table 3.2-3 summarizes the short-term measurement parameters. For each short-term measurement, Table 3.2-3 reports both the measured short-term  $L_{eq}$  and the corresponding estimated loudest-hour  $L_{eq}$ . This table also provides a corresponding long-term measurement location for each short-term measurement. Each loudest-hour  $L_{eq}$  was estimated by adjusting the measured short-term  $L_{eq}$  by the difference between the  $L_{eq}$  measured at the corresponding long-term site during the loudest hour and the  $L_{eq}$  measured at that long-term site when the short-term measurement was conducted.

### **3.2.3 Impacts**

This traffic noise analysis determined the impacts at exterior areas of frequent human use and provided feasible and reasonable abatement measures for the proposed project's design year of 2030.

The highest hourly traffic noise levels are used to determine the noise impacts. In congested areas, the highest noise levels do not occur during peak traffic hours, but rather when traffic is heavy, but remains free-flowing. Once traffic becomes stop and go, the overall traffic noise drops substantially; therefore, typically the highest traffic noise levels occur just before and after peak traffic hours. For future no-build conditions, traffic noise exposure at Receptors R17 through R22 and R29 through R42 was deemed to be worst in the PM. For future build conditions, traffic noise exposure at Receptors R1 through R22, R29 through R41, and R61 through R72 was deemed to be worst in the PM. For the remaining modeled receptors under future no-build and future build conditions, traffic noise exposure was deemed to be worst in the AM.

**3. Affected Environment,  
Environmental Impacts, and Mitigation**

**Table 3.2-2  
Long-Term Noise Measurements**

Site No. <sup>1</sup>	Street Address, City	Land Use <sup>2</sup>	Noise Abatement Category (Criterion)	Meter Location	Measurement Dates	Start Time	Measured Peak-Hour L <sub>eq</sub> , dBA
LT1	2220 Nelson Way, Sparks	SFR	B (67)	Side yard	05/02/11-05/04/11	17:09	53
LT2	1200 Gault Way, Sparks	SFR	B (67)	Backyard	05/02/11-05/04/11	14:17	59
LT3	655 Gault Way, Sparks	SFR	B (67)	Side yard	05/02/11-05/04/11	12:55	54
LT4	465 Lenwood Drive, Sparks	SFR	B (67)	Backyard	05/02/11-05/04/11	13:36	69
LT5	3170 Sprout Way, Sparks	SFR	B (67)	Backyard	05/02/11-05/04/11	15:20	60
LT6	3232 Jamestown Court, Sparks	SFR	B (67)	Backyard	05/02/11-05/03/11	16:29	62
LT7	771 Mercy Court, Sparks	SFR	B (67)	Backyard	05/02/11-05/04/11	15:54	58

Notes:

1 - LT - Long term measurements (24 hours or greater)

2 - SFR - Single-family residential.

**Table 3.2-3  
Short-Term Noise Measurements**

Site No. <sup>1</sup>	Street Address, City	Land Use <sup>2</sup>	Noise Abatement Category (Criterion)	Meter Location	Measurement Dates	Start Time <sup>3</sup>	Measured L <sub>eq</sub> , dBA	Adjusted Peak-Hour L <sub>eq</sub> , dBA	Adjusted to Long-Term Site
ST1	2600 Nelson Way, Sparks	SFR	B (67)	Front yard	05/03/11	09:06	52.0	57	LT1
ST2A	2900 N. McCarran Boulevard (Immaculate Conception Catholic Church), Sparks	CHR	C (67)	Courtyard	05/03/11	10:24	59.4	61	LT2
ST2B					05/04/11	08:40	58.9	60	LT2
ST3	2965 McCarran Boulevard, Sparks	SFR	B (67)	Dirt road	05/03/10	10:56	60.7	63	LT6
ST4	2755 4th Street (Drake Elementary School), Sparks	SCH	C (67)	Near classrooms	05/03/10	14:00	53.2	53	LT3
ST5	520 Queen Way (Church of Christ at Queen's Way), Sparks	SCH	C (67)	Near basketball court	05/03/10	12:27	54.3	57	LT7

Notes:

1 - LT - Long term measurements (24 hours or greater)

2 - SFR - Single-family residential; SCH - School; CHR - Church.

3 - Short-term measurements were 15 to 20 minutes in duration and they were adjusted to the peak noise hour if they were not conducted during the peak noise hour.

Traffic noise levels for the future loudest-hour traffic conditions were calculated using Traffic Noise Model (TNM) version 2.5, which is the FHWA- and NDOT-approved computer noise model for conducting traffic noise studies. Many of the traffic noise impacts identified in this study occur at locations currently experiencing perceptible traffic noise levels that would continue after project implementation. In areas where a row of homes would be acquired, privacy walls would be constructed to provide separation between the residential neighborhoods and the roadway.

Typically, large project-related changes in traffic noise levels are predicted at receptor locations where roadway widening would eliminate intervening rows of houses, turning second receptors into first-row receptors, thereby increasing traffic noise exposure. Such locations include Receptors R17 through R25, R33 through R41, and R61 through R66; however, noise analysis shows that the future noise level for most of these receptors would be reduced below existing noise levels due to the privacy walls that would be erected to abate visual impacts. Other receptor locations where existing noise levels would be greater than the future are Receptors R25A through R28 and R30 through R32. This is also due to the privacy walls that would be erected to abate visual impacts for first-row receptors that currently do not have privacy walls.

Traffic on a given roadway could create certain peak hourly average noise levels. This peak hourly noise level would not change unless lanes are added to the roadway. For a given roadway, if the existing peak-hour average traffic noise levels are at the highest level that free-flowing traffic can create, then there would be no change in the future peak-hour traffic noise levels; however, the time of day that the peak traffic noise occurs can change based on the future traffic patterns. Table 3.2-4 summarizes the results of the predicted levels at the representative noise-sensitive receptors within the study area (Parsons, 2012e). Future noise levels for some receptors are lower than existing noise levels. There are three primary reasons for this: (1) the future traffic volumes are lower than the existing traffic volumes; (2) the future traffic lanes are farther away from sensitive noise receptors (see Note 4 at the bottom of Table 3.2-4); and (3) privacy walls are added to the project for visual abatement (see Note 3 at the bottom of Table 3.2-4). For the receptors that are protected by a privacy wall, the predicted noise levels without the privacy wall in place are shown in parenthesis for reference. As noted in the table (see Note 5), although 2030 predicted noise levels are lower than existing noise levels at some locations, the predicted noise levels approach or exceed the NAC and abatement measures must be considered. Table 3.2-4 summarizes the predicted noise levels at the representative noise-sensitive receptors within the study area (Parsons, 2012e).

<b>Table 3.2-4 Build Alternative Existing and Predicted Noise Levels and Soundwall Recommendations</b>					
<b>Receptor Number<sup>3,4</sup></b>	<b>Land Use<sup>1</sup></b>	<b>Existing Noise Levels, dBA, L<sub>eq</sub>(h)<sup>2</sup></b>	<b>2030 Predicted Noise Levels for Build Alternative, dBA, L<sub>eq</sub>(h)<sup>2</sup></b>	<b>2030 Mitigated Noise Levels, dBA, L<sub>eq</sub>(h)<sup>2</sup></b>	<b>Wall Number/Location or Reason Wall Not Recommended</b>
R1	SFR	61	61	--	--
R2	SFR	50	50	--	--
R3	SFR	57	57	--	--
R4	SFR	57	57	--	--

**Table 3.2-4  
Build Alternative Existing and Predicted Noise Levels  
and Soundwall Recommendations**

Receptor Number <sup>3,4</sup>	Land Use <sup>1</sup>	Existing Noise Levels, dBA, $L_{eq}(h)$ <sup>2</sup>	2030 Predicted Noise Levels for Build Alternative, dBA, $L_{eq}(h)$ <sup>2</sup>	2030 Mitigated Noise Levels, dBA, $L_{eq}(h)$ <sup>2</sup>	Wall Number/Location or Reason Wall Not Recommended
R5	SFR	59	60	--	--
R6	SFR	59	60	--	--
R7	SFR	52	53	--	--
R8	CHR	68	69		No outdoor use area
R9	SFR	54	54	--	--
R10	SFR	59	58	--	--
R11	SFR	64	64	--	--
R12	CHR	61	61	--	--
R13	CHR	60	61	--	--
R14	CHR	55	57	--	--
R15	SFR	54	55		
R16	SFR	68	68	62	Soundwall S37 exceeds cost reasonable criteria
R17 <sup>v</sup>	SFR	57	59 (63)	--	--
R18 <sup>v</sup>	SFR	54	56 (58)	--	--
R19 <sup>v</sup>	SFR	53	54 (56)	--	--
R20 <sup>v</sup>	SFR	56	55 (58)	--	--
R21 <sup>v</sup>	SCH	54	57 (61)	--	--
R22 <sup>v</sup>	SCH	55	57 (61)	--	--
R23 <sup>v</sup>	SFR	53	57 (60)	--	--
R24 <sup>v</sup>	SFR	52	55 (58)	--	--
R25 <sup>v</sup>	SFR	50	54 (55)	--	--
R25A <sup>v</sup>	SFR	69	63 (61)	--	--
R26 <sup>v</sup>	SFR	69	63 (70)	--	--
R27 <sup>v</sup>	SFR	69	63 (70)	--	--
R28 <sup>v</sup>	SFR	69	65 (70)	--	--
R29 <sup>v</sup>	SFR	54	54 (55)	--	--
R30 <sup>v</sup>	SFR	66	63 (68)	--	--
R31 <sup>v</sup>	SFR	66	62 (69)	--	--
R32 <sup>v</sup>	SFR	66	62 (69)	--	--
R33 <sup>v</sup>	SFR	53	54 (58)	--	--
R34 <sup>v</sup>	SFR	55	57 (60)	--	--
R35 <sup>v</sup>	SFR	51	53 (55)	--	--
R36 <sup>v</sup>	SFR	55	56 (60)	--	--
R37 <sup>v</sup>	SFR	54	55 (57)	--	--
R38 <sup>v</sup>	SFR	57	59 (63)	--	--
R39 <sup>v</sup>	SFR	53	55 (57)	--	--
R40 <sup>v</sup>	SFR	54	56 (58)	--	--
R41 <sup>v</sup>	SFR	56	56 (59)	--	--



**Table 3.2-4  
Build Alternative Existing and Predicted Noise Levels  
and Soundwall Recommendations**

Receptor Number <sup>3,4</sup>	Land Use <sup>1</sup>	Existing Noise Levels, dBA, $L_{eq}(h)$ <sup>2</sup>	2030 Predicted Noise Levels for Build Alternative, dBA, $L_{eq}(h)$ <sup>2</sup>	2030 Mitigated Noise Levels, dBA, $L_{eq}(h)$ <sup>2</sup>	Wall Number/Location or Reason Wall Not Recommended
R42	CHR	56	58	--	--
R43	SFR	65	68	62	Soundwall S79 exceeds cost reasonable criteria
R44	CHR	61	64	--	--
R45 <sup>A</sup>	SFR	67 <sup>5</sup>	66 <sup>5</sup>	58	Soundwall S83 – ROW and property line
R46 <sup>A</sup>	SFR	65	65	59	
R47 <sup>A</sup>	SFR	66	66	58	
R48 <sup>A</sup>	SFR	61	61	59	Soundwall S85 exceeds cost reasonable criteria
R49 <sup>A</sup>	SFR	67	66 <sup>5</sup>	60	
R50 <sup>A</sup>	SFR	62	61	--	--
R51 <sup>A</sup>	SFR	58	59	--	--
R52 <sup>A</sup>	SFR	63	62	--	--
R53 <sup>A</sup>	SFR	66	65	--	--
R54 <sup>A</sup>	SCH	69 <sup>5</sup>	67 <sup>5</sup>	61	Soundwall S91 – ROW and property line
R55	REC	54	58	--	--
R56	SFR	48	50	--	--
R57	SFR	49	52	--	--
R58	SFR	52	54	--	--
R59	SFR	48	49	--	--
R60	SFR	59	61	--	--
R61 <sup>V</sup>	SFR	59	62 (66)	--	--
R62 <sup>V</sup>	SFR	60	61 (66)	--	--
R63 <sup>V</sup>	SFR	57	60 (62)	--	--
R64 <sup>V</sup>	SFR	52	56 (57)	--	--
R64A <sup>V</sup>	SFR	58	63 (67)	--	--
R65 <sup>V</sup>	SFR	58	61 (64)	--	--
R66 <sup>V</sup>	SFR	60	64 (68)	--	--
R67	SFR	54	60	--	--
R68	SFR	54	59	--	--
R69	CHR	55	58	--	--
R70	SCH	57	60	--	--
R71	SFR	54	57	--	--
R72	SFR	56	59	--	--

Notes:

1 – SFR – Single-family residential; SCH – School; CHR – Church.

2 –  $L_{eq}(h)$  - equivalent hourly sound level.

3 – V– Receptor protected by future privacy wall. Predicted noise levels without the privacy wall in place are shown in parenthesis.

4 – A– Future traffic lanes are reconfigured further away from receptors.

5 – Although 2030 predicted noise levels are lower than existing noise levels, the predicted noise levels approach or exceed the NAC and abatement measures must be considered.

Traffic noise analysis results indicate five areas impacted by the proposed intersection improvement project (Parsons, 2012e):

- A residence along the westbound side of McCarran Boulevard west of Pyramid Way represented by Receptor R16.
- A residence at the northwest corner of McCarran Boulevard and Pyramid Way represented by Receptor R43.
- Residences along the southbound side of Pyramid Way south of Emerson Way represented by Receptors R45 and R47.
- A residence at the northwest corner of Pyramid Way and Emerson Way represented by Receptor R49.
- A day-care center along the southbound side of Pyramid Way opposite Mercy Court represented by Receptor R54.

In addition, if construction of the project required the removal of any portions of the soundwall along eastbound McCarran Boulevard from Rock Boulevard to the east end of the residential development in this area, the removed portions would be replaced in-kind as part of project implementation. In areas where a row of homes would be acquired, 6-foot-tall privacy walls would be constructed to provide separation between the residential neighborhoods and the roadway as part of the visual resource mitigation. While not an intended traffic noise mitigation measure, depending upon their location, privacy walls can abate traffic noise.

### **Construction**

Noise at the construction site would be intermittent, and the intensity would vary. The degree of construction noise impacts may vary for different areas of the project site and depend on the type of construction activities. While variations in construction schedule and activities are traditionally left to the contractor's discretion, nighttime construction is not anticipated for this project.

Long-term noise exposure descriptors are difficult to quantify due to the intermittent nature of construction noise. Highway construction is accomplished in several different phases. During the construction period, some of the sensitive receptors that are close to the highway may be exposed to elevated noise levels.

#### **3.2.4 Mitigation**

During construction, a combination of techniques, including equipment noise control and administrative measures, can be selected to provide the most effective means of mitigation.

During operation, noise abatement measures were evaluated by modeling a soundwall shielding the noise receivers adjacent to the proposed project. Soundwalls were determined to be the most reasonable and feasible mitigation option to reduce the long-term traffic noise impacts. Soundwalls are recommended to be constructed early in the project to also mitigate construction noise. The recommended soundwalls are expected to meet NDOT feasibility requirements, noise reduction goals, and cost reasonableness criteria of \$40,000 per benefited unit or receptor at impacted areas. For the full range of soundwall heights and locations that were considered, see

the *Traffic Noise Impact Assessment* (Parsons, 2012e). Table 3.2-5 presents a summary of the soundwalls that were analyzed, including the number of benefited units and associated cost allowances. The recommended soundwalls are shown in Figure 3.2-2. Two of the five feasible soundwalls considered in this analysis were determined to be cost-reasonable. Abatement implementation is limited to cost-reasonable soundwalls; therefore, the following areas are not eligible for traffic noise abatement:

- A residence along the westbound side of McCarran Boulevard west of Pyramid Way represented by Receptor R16.
- A residence at the northwest corner of McCarran Boulevard and Pyramid Way represented by Receptor R43.
- A residence at the northwest corner of Pyramid Way and Emerson Way represented by Receptor R49.

**Table 3.2-5  
Analyzed and Recommended Soundwalls**

Soundwall Number	Benefited Units	Length (ft)	Height (ft)	Total Cost Allowance <sup>1</sup> (\$)	Estimated Cost <sup>2</sup> (\$)	Cost Reasonable?	Soundwall Recommended?
S37	1	316	8	40,000	96,064	No	No
S79	1	285	10	40,000	108,300	No	No
S83	3	259	10	120,000	98,420	Yes	Yes
S85	1	170	8	40,000	51,680	No	No
S91	1	157	6	40,000	35,796	Yes	Yes

Notes:

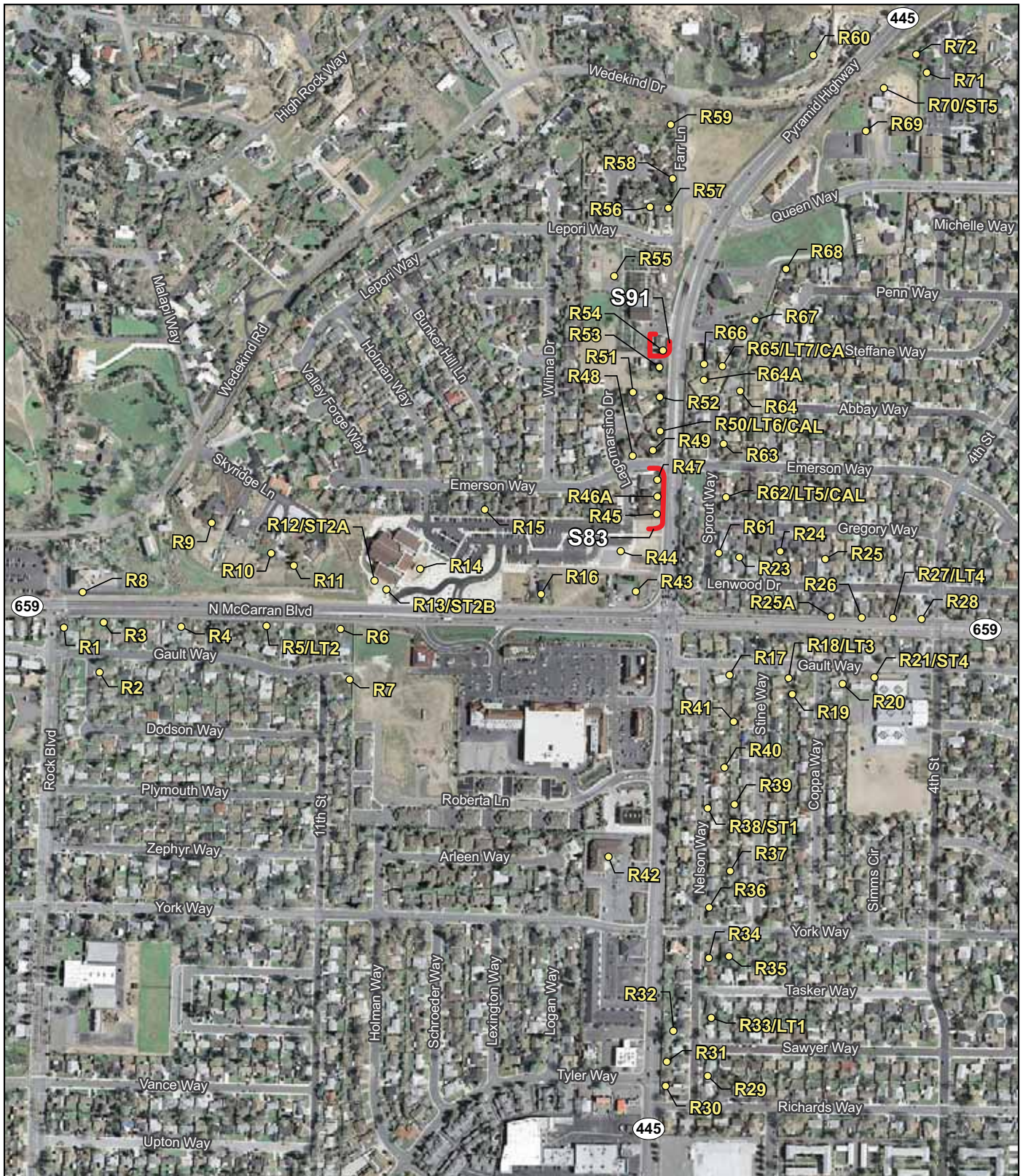
1 – Cost allowance was calculated using \$40,000 per benefited receptor/unit/parcel.

2 – Estimated cost was calculated based on \$38 per square foot of wall constructed.

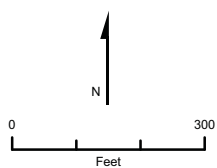
**Soundwall S83** would be located along the southbound side of Pyramid Way at the ROW line between corridor Stations 82+95 and 84+95. It would replace an existing 6-foot-high property wall at this location. At a height of 10 feet, the soundwall would achieve NDOT acoustical feasibility criteria at three residences represented by Receptors R45 through R47. Near its northern terminus, it would wrap around the southwest corner of the intersection at Emerson Way. At its southernmost point along the ROW line, it would extend westward along the southern boundary of the southernmost protected residence.

**Soundwall S91:** Soundwall S91 would be located along the southbound side of Pyramid Way at the ROW line between Stations 90+05 and 90+55. At a height of 6 feet, the soundwall would achieve NDOT acoustical feasibility criteria at a day-care center represented by Receptor R54. From its northernmost point along the ROW line, it would follow the northern property line to the west for approximately 20 feet. At its southernmost point, the soundwall would extend along the southern boundary of the protected property.





Source: Parsons 2011



#### LEGEND

- Noise Receptors
- Proposed Soundwalls



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

### Noise Receptors and Recommended Sound Walls

Figure 3.2-1



### **3.3 Socioeconomics**

#### **3.3.1 Land Use**

The general area of the proposed Pyramid Way and McCarran Boulevard Intersection Improvement Project contains several well-established residential neighborhoods. The project limits are generally bounded by North Rock Boulevard to the west, 4<sup>th</sup> Street to the east, Tyler Way to the south, and Queen Way to the north (see Figures 2-4a through 2-4d). As the major north-south corridor traversing the community, Pyramid Way hosts most of the local-serving retail shops and commercial enterprises and is interspersed with small offices providing various community services. Residential neighborhoods, which extend on both sides of Pyramid Way, are comprised of mostly detached single-family units whose period of construction dates from the 1950s and 1960s. These larger neighborhoods are located mostly south of McCarran Boulevard, although more recently constructed single-family residences are located on slightly higher terrain to the north of McCarran Boulevard, both east and west of Pyramid Way. Religious and park and recreation facilities are intermingled and located adjacent to residential areas. While well-established retail plazas, such as the Greenbrae Shopping Center (see Figure 2-4c), operate to the south and beyond the direct project area, a popular and prominent neighborhood shopping center facility known as Sparks Mercantile (see Figure 2-4a) occupies the southwest corner of the Pyramid Way and McCarran Boulevard intersection. Immediately north of the project intersection area, beyond the residential areas known as Village Green and Vista Del Oro (see Figures 2-4a and 2-4b), are open-range lands administered by the Bureau of Land Management, and even farther north on either side of Pyramid Highway, lays Spanish Springs Valley.

#### **3.3.2 Social Environment**

##### **Population**

As of 2010, the population of Sparks is 90,264. Since 2000, the city has experienced a population growth rate of 36 percent. This compares to a change of 24 percent for Washoe County as a whole and 35 percent for the State of Nevada over the same time horizon. Table 3.3-1 presents the population growth of Sparks, Washoe County, and the State of Nevada from 1980 to 2010.

<b>Table 3.3-1 Population Growth, 1980-2010</b>					
<b>Area</b>	<b>Total Population</b>				<b>2000-2010 Population Growth</b>
	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2010</b>	
City of Sparks	40,780	53,367	66,346	90,264	36%
Washoe County	193,625	254,667	339,486	421,407	24%
Nevada	800,493	1,201,833	1,998,260	2,700,551	35%

*Source: U.S. Census Demographic Profile Data.*

Sparks had an annual population growth rate that averaged 4.5 percent from 2002 to 2008. The slowdown since is reflected by the City's 2010 estimate of its annual population growth at 0.5 percent.

## Age

As Table 3.3-2 indicates, as of 2010, the percentage of persons under 18 within Washoe County and Sparks is at least twice as great as that of the elderly population; this age composition is also similar for the State of Nevada. Sparks closely mirrors the state average with 12 percent of its population being comprised of people over age 65, as is also true for Washoe County as a whole.

<b>Table 3.3-2 Population by Age Group</b>			
<b>Age</b>	<b>City of Sparks</b>	<b>Washoe County</b>	<b>Nevada</b>
Median Age	35.5	37.0	36.3
Under 18	26%	24%	25%
20 – 24	7%	8%	7%
25 – 34	14%	13%	14%
35 – 49	21%	20%	21%
50 – 64	18%	20%	18%
65 & over	11%	12%	12%

*Source: 2010 U.S. Census, Summary File 1. Percentages have been rounded off so that they may not equal exactly 100%.*

## Race and Ethnicity

According to the 2010 Census, and as shown in Table 3.3-3, the City's and County's population has a greater proportion of Whites (74 and 77 percent, respectively) than the state average of 66 percent. The 2010 Census clarified the race and ethnicity distinction specifically in regards to persons of Hispanic or Latino origin. This distinction is significant, especially in states in the western United States near the Mexican border, and it reflects the substantial size of this minority group in Nevada. Washoe County has the lowest percentage of ethnic Hispanic or Latinos, with 23 percent of the population, compared to Sparks and the State of Nevada, which has 26 and 27 percent, respectively (U.S. Census, 2010). African-Americans comprise 3 percent of the population of Sparks, and as with Washoe County, this is less than half the state average of 8 percent. The "Some Other Race" category of the Census constitutes approximately 10 percent of Washoe County's population; this is similar to the same category for Sparks and the state as a whole. The City, County, and State have similar small percentages of those who designate themselves as American Indian (between 1 and 2 percent), Asian (averaging 6 percent), and Native Hawaiian or other Pacific Islander persons (less than 1 percent).

<b>Table 3.3-3 Racial Composition</b>							
<b>Area</b>	<b>White</b>	<b>African American</b>	<b>American Indian</b>	<b>Asian</b>	<b>Native Hawaiian or other Pacific Islander</b>	<b>Some Other Race</b>	<b>Two or More Races</b>
City of Sparks	74%	3%	1%	6%	1%	11%	4%
Washoe County	77%	2%	2%	5%	1%	10%	4%
Nevada	66%	8%	1%	7%	1%	12%	5%

*Source: 2010 U.S. Census, Summary File 1. Percentages have been rounded off so that they may not equal exactly 100%.*

## **Residential Environment**

In 2000, the housing stock in Sparks was comprised of 69.6 percent single-family residences. Study data from the 2010 Census indicates that within a 1-mile radius of the project area, two-thirds (66 percent) of the housing units are owner-occupied, which is a higher percentage than that for the greater Reno-Sparks area, at 54 percent.

Sparks had a higher occupancy rate in 2010 than either Washoe County or the State of Nevada, as shown in Table 3.3-4. Persons per dwelling averaged 2.7 people in both owner-occupied and renter-occupied dwellings. The housing vacancy rate of 8 percent in Sparks and more than 10 percent in Washoe County is attributable to the poor economy and the proximity to seasonal ski resorts, which facilitates part-time residency.

<b>Table 3.3-4 Occupied and Vacant Housing</b>				
<b>Area</b>	<b>Occupied</b>	<b>Vacant</b>	<b>Persons per Owner-Occupied Dwelling</b>	<b>Persons per Renter-Occupied Dwelling</b>
City of Sparks	92%	8%	2.7	2.7
Washoe County	88%	12%	2.6	2.5
Nevada	86%	14%	2.7	2.6

*Source: 2010 U.S. Census, Summary File 1. Percentages have been rounded off so that they may not equal exactly 100%.*

## **Access, Circulation, and Parking**

Accessibility generally refers to the relative ease with which desired destinations can be reached, whether those ultimate destinations are for purposes of work, recreation, shopping, attending worship services, visiting family and friends, or any of the myriad of activities that require people to leave their residences. A transportation project may substantially improve the accessibility of some locations for individuals and reduce the accessibility of others. A location can be made more accessible by automobile, but made more difficult to reach for those without a car.

The average one-way commute time to work for those living in Sparks is 21 minutes, approximately 7 minutes less than the national average and 2 fewer minutes than the state average, with more than three-quarters of commuters driving to work alone. Approximately 13 percent of those residing in Sparks carpool to work with others. Three (3) percent of residents take local mass transit (i.e., bus) to work, and another 3 percent work from home. Parking is generally available throughout the project area; retail and commercial establishments within 0.5-mile of the proposed project appear to have ample parking for their customers.<sup>1</sup>

RTC operates the RIDE program, which provides public transportation services to residents of Sparks through its fixed-route bus transit system; Sparks is served via seven bus routes, which together delivered 7.5 million rides in 2010. The closest transit stop to the project area is located on York Way at Pyramid Way.

<sup>1</sup> Information accessed at [www.bestplaces.net/transportation/metro/nevada/reno-sparks](http://www.bestplaces.net/transportation/metro/nevada/reno-sparks), August 5, 2011; U.S. Census Bureau, American FactFinder, Population and Housing Narrative Profile for Nevada, 2005-2009.

## **Community Facilities**

### ***Law Enforcement, Fire, and Hospitals/Ambulance Services***

The project area is served by the City of Sparks Police Department. The Department operates from 2 stations; it has 116 sworn police personnel (2010), with 29 marked police vehicles and 6 police motorcycles.

The City employs 96 firefighters (2010) that are deployed from 5 stations and divided into 6 response districts. The project area is located within Districts 1 and 2. The closest fire station in proximity to the project area is Fire Station 2, which is located at 2900 North Truckee Lane, approximately 1-mile to the east. It services Response District 2; Fire Station 1, which is also the headquarters for Sparks' fire department and is located at 1605 Victorian Avenue, services the neighborhoods within District 1. Fire service from Station 2 would likely travel west on McCarran Boulevard into the project area, whereas service from Station 1 would arrive traveling north on Pyramid Way.

The Reno-Sparks area has three private general hospitals: St. Mary's Regional Medical Center (235 W. Sixth Street, Reno), Renown Health (77 Pringle Way, Reno), and North Nevada Medical Center (2375 E. Prater Way, Sparks). The area also supports a Veteran's Administration Sierra Nevada Health Care System (1000 Locust Street, Reno). None of the four hospitals are located within 0.5-mile of the project area. Ambulance service is provided by the Regional Emergency Medical Services Authority (REMSA).

### ***Schools***

Sparks' education system is served by the Washoe County School District. Florence Drake Elementary School is located at 2755 4<sup>th</sup> Street in the southeast quadrant of the project area. The neighborhood located in the northeast quadrant is served by Lena Juniper Elementary School, located at 225 Queen Way. Maxwell Elementary School, at 2300 Rock Boulevard and Sparks Middle School, at 2275 18<sup>th</sup> Street, are located in the southwest quadrant of the Pyramid Way and McCarran Boulevard intersection. Reed High School, located 3 miles east of the project area at 1350 Baring Boulevard, also serves the project area neighborhoods.

### ***Parks and Recreation Facilities***

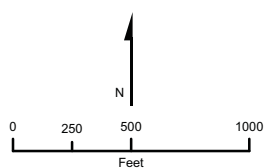
Sparks has 48 parks, comprising 457 acres, and has plans for developing an additional 13 parks. Municipal recreational facilities within the general project area include the following, as depicted in Figure 3.3-1:

- Aimone Park – 55 Queen Way; opened in 1972. The park features two lighted tennis courts, a playground, softball field, and canopy with tables.
- Village Green Park – 849 Lepori Way; built in 1985. The 2.2-acre park includes a playground and basketball court.
- Burgess Park – 1605 Pyramid Way; opened in the 1960s and was originally called Northmore Park. The 6-acre property includes a skate park, lighted tennis courts, and a softball field.
- Church Park – 1850 1<sup>st</sup> Street, built in the 1970s. The 2.3-acre park has a playground and sports practice fields.





Source: Parsons 2011



### LEGEND

- Community Facilities
- Bus Route
- Project Design

### Landmark Areas

- School
- Park/Golf Course



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

### Community Facilities

Figure 3.3-1

- City Recreation Center – 98 Richards Way. The Center, on a 5.4-acre parcel, includes a gym, picnic and barbecue area, and tables with canopies, and is situated adjacent to Church Park, built in the 1970s.

A public golf course, Wildcreek, is located approximately 0.5-mile northwesterly of the proposed project at 3500 Sullivan Lane. The facility is owned by the Reno-Sparks Convention & Visitors Authority. Facilities include a clubhouse, bar and grill, and pro golf shop.

### ***Churches***

The Reno-Sparks area has many facilities devoted to religious worship and, as identified in Exhibit 3.3-1, several are located within 0.5-mile of the proposed project. Of these, four churches are worth noting because of their close proximity to the project area.

The Immaculate Conception Catholic Church, located at 2900 N. McCarran Boulevard, traces its origins to the founding of Sparks in 1905 and, since 2005, has been in its present location. The church currently has 1,775 parishioners.

Though one of many Catholic churches in the Sparks-Reno area, Immaculate Conception Catholic Church is already somewhat of a regional landmark and is used by a myriad of Catholic activity organizations. The church parishioners, including Pastor Norman A. King, have been interested and involved in the Pyramid Way and McCarran Boulevard intersection project since the first public information meeting in May 2006.

The Lord of Mercy Lutheran Church, located at 3400 Pyramid Way, has been in its current location since 1967; the congregation formed to worship in this general Sparks area neighborhood in 1964 when it first met in a nearby bowling alley. Many members have been coming to the church at the current location for many years, and for them, it has become an important community anchor.

Two other churches, the First Christian Church of Sparks and the Reno Ark (Presbyterian) Mission Church, are located northeast of the Pyramid Way and McCarran Boulevard intersection, on Queen Way, nestled in the upper northwest corner of the Vista Del Oro neighborhood of Sparks, and they have been in their locations since the middle to late 1990s. Both hold regular Sunday services.

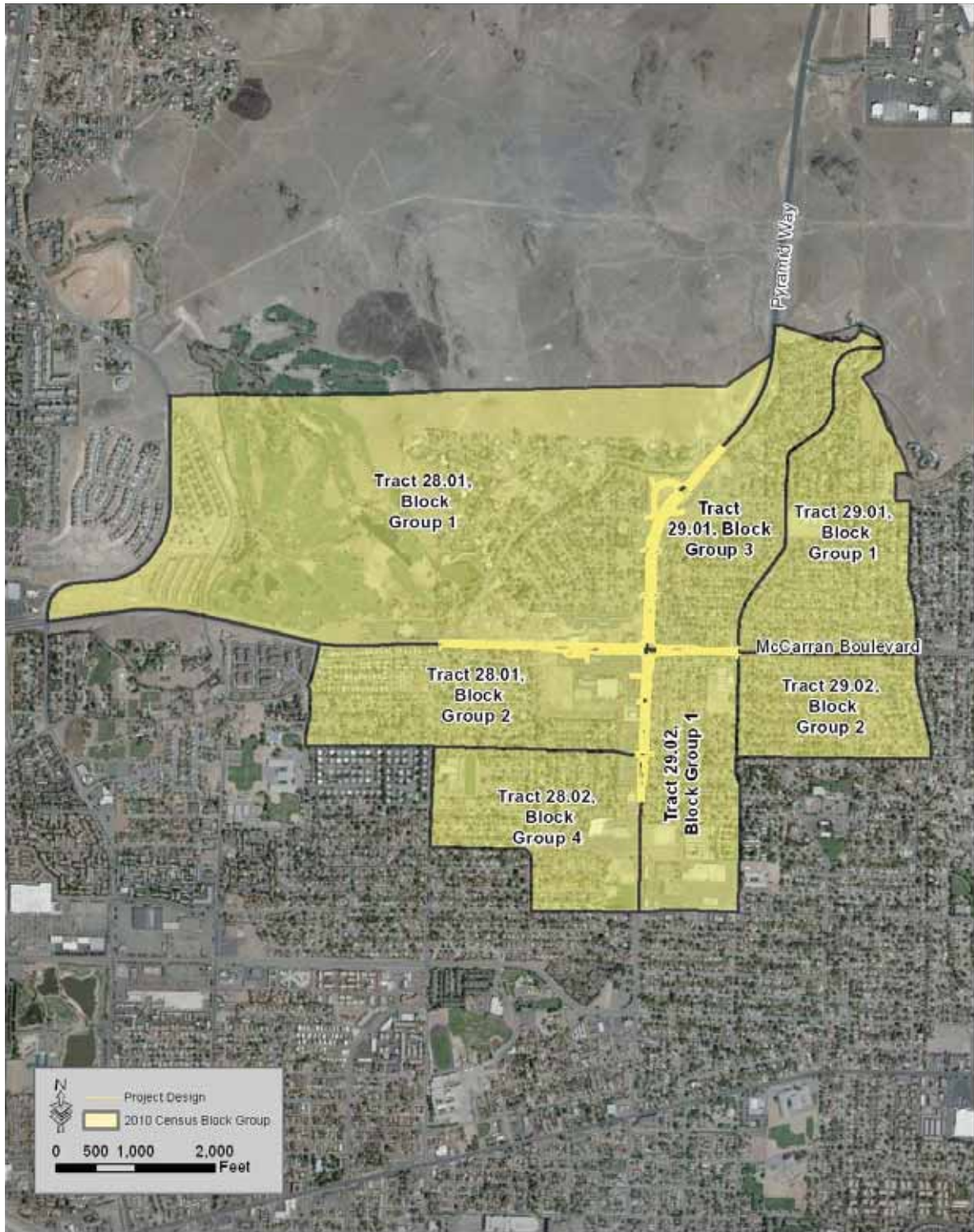
### **3.3.3 Impacts**

#### **Social Impacts**

##### ***Population Impacts***

Under the Build Alternative, potential residential displacements would occur in Census Tracts 29.01 and 29.02, as depicted in Figure 3.3-2. Based on the average household size of 2.7 persons within Sparks (based on 2010 estimates), the displacement of up to 75 single-family residential structures would potentially cause the displacement of approximately 203 persons residing in Sparks. This potential change in population would be considered minor in the context of the overall population of Sparks and would represent 0.22 percent of the city's total population. As to the socioeconomic status of the residents of the displaced homes, demographic information





Source: Parsons 2011



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

## Census Tracts

Figure 3.3-2

from the U.S. Census indicates that the affected nearby neighborhoods are not largely dissimilar from that of the city as a whole in terms of the population of elderly persons or low-income persons. Three of the project area Census Tract Block Groups (see Table 3.3-9 in Section 3.3.6, *Environmental Justice*) have a larger percentage of minority populations compared to Washoe County and the State of Nevada (Parsons, 2011b).

### **Community Cohesion Effects**

Widening a small segment of Pyramid Way by two lanes within the project limits would increase the sense of separation between a segment of the neighborhood, especially to the residential area located east of Pyramid Way and south of McCarran Boulevard. Removing the first row of residential properties on Nelson Way and Gault Way would separate the remaining residences from those that were formerly located across the street from them and with whom many may have formed previous relationships and acquaintances. This may place a psychological and social burden on those who are immediately impacted. This is difficult to quantify, but these situations are typically more challenging for households that have elderly adults or younger children; therefore, the project would alter community cohesiveness between the neighborhoods. However, for each of the entire neighborhoods (as an integrated whole), this effect would likely be fairly minor because Pyramid Way and McCarran Boulevard are already busy thoroughfares that act to separate these areas, and it has served to discourage interaction between the physically close but distinct neighborhoods. The character of the neighborhood west of Pyramid Way is somewhat different than the one to the east of it, as are the neighborhoods nestled north and south of McCarran Boulevard. In addition, the suburban residential neighborhoods located north of McCarran Boulevard have a more affluent feel to them because they are located on larger-size parcels on average, with somewhat more extensive landscaping, and the housing is of more recent construction. Widening Pyramid Way north of McCarran Boulevard would not dramatically change the sense of separation of the two neighborhood areas of Village Green (to the west) and Vista Del Oro (to the east) because traffic on the busy roadway already acts to discourage interaction between the two neighborhoods; virtually no pedestrian activity occurs at this location because of the heavy, fast-moving traffic and short sight distances due to the raised roadway grade.

Widening McCarran Boulevard west of Pyramid Way would not create a sense of separation between the areas lying north and south of the project area because there is less of a neighborhood feel as more properties are devoted to other land uses, including commercial properties (to the south) and a large church (to the north). The neighborhoods east of Pyramid Way, however, would be exposed to visual impacts due to the removal of those parcels that include dense landscaping and mature trees that previously would have acted as a screen and visual filter.

The overall effects of the Build Alternative on community cohesion are expected to be moderate; while parcels containing rows of housing are removed from the existing housing stock, most of the tract developments would remain intact, and the two busy roadways being widened for a short distance for this intersection improvement project already serve to separate the existing neighborhoods. Percentage-wise, only a small proportion of area residents are likely to be displaced, and existing relocation resources should be sufficient for those people who choose to move back into their community.



### **Access, Circulation, and Parking Impacts**

Locations within the study area could experience temporary disruptions to existing travel patterns during construction activities. Depending on the duration and time of project construction, which is expected to last between 12 and 18 months, limited and temporary impacts to local travel patterns and traffic flow along Pyramid Way, McCarran Boulevard, and some adjacent city streets are likely to occur. Residents of the nearby developments can only gain access to the Sparks Mercantile Shopping Center from two intersections along Pyramid Way and one driveway on McCarran Boulevard. As outlined in the traffic studies, traffic patterns along study area roads may experience temporary impacts due to roadway closures, lane restrictions, and detours. Depending on the time of day when construction occurs, and the extent and duration of construction activities, residents of the Village Green and Vista Del Oro developments located north of McCarran Boulevard could experience longer wait times to enter and exit the neighborhood during construction. This could result in additional traffic impacts within the housing developments themselves. Measures to minimize access and traffic impacts during construction activities would be implemented as part of a traffic control plan.

Implementation of the Build Alternative may have a positive impact with respect to motorist safety. Improvements to traffic circulation at the Pyramid Way and McCarran Boulevard intersection would also reduce congestion along other local roads throughout the study area, including Wedekind Way, because motorists would be less likely to use local roads as shortcuts as they do now to avoid congestion at the intersection. This should help make residential areas safer for pedestrians and joggers.

As part of the design features of the Build Alternative, 10-foot-wide roadway shoulders would be included along McCarran Boulevard to accommodate bicyclists and allow them to more safely utilize the street facility; therefore, implementation of the Build Alternative would likely result in positive impacts to travel patterns for bicyclists. The implementation of roadway shoulders for bicyclists would generally improve their access to community facilities as well.

With the exception of on-street parking fronting those residential properties that would be acquired as part of the ROW needed for project improvements, it is not anticipated that any other parking spaces would be temporarily or permanently removed. Parking supply would remain unchanged under the No Build Alternative.

### **Community Facilities**

#### ***Impacts on Law Enforcement, Fire, and Hospitals/Ambulance Services***

During construction, potential impacts on public service providers, including police, fire, and emergency services and hospitals, may include short-term increased emergency response times caused by congestion during project construction, temporary lane closure or road closures, and traffic detours. All facilities would be open during the construction period, although, at times, response times may be temporarily slowed because of lane closures.

Public services in the study area would be largely unaffected by operation of the proposed project under the Build Alternative. Existing access would be maintained and, in some locations, enhanced by implementation of the project. The project is anticipated to ultimately improve police, fire, and emergency vehicle response times to the nearby neighborhoods within the general study area by relieving peak-period bottlenecks of traffic and improving roadway safety.

## **Relocation Impacts**

Current market data (as of July 2011) indicate that there are adequate resources in Sparks to accommodate relocation of the residential and nonresidential displacements resulting from the proposed project (Property Specialists Inc., 2011). A full inventory of available relocation resources and a correlation with the housing and nonresidential units projected to be acquired for this project will be conducted and identified if the Build Alternative is recommended, the EIS completed, and a Record of Decision issued.

## **Residential Displacement**

An estimated 75 single-family detached housing units would be subject to relocation under the Build Alternative, as shown in Table 3.3-5 (see Figure 3.3-3). This assumption represents the maximum number of potential displacements. Seven of these single-family structures, located on Lenwood Drive west of 4<sup>th</sup> Street, are not required for the physical construction of the improvements, but they are considered by RTC to be context-sensitive displacements. Removal of these residences would avoid leaving homes isolated in a “residential island” at completion of the project. Removal of these residences also allows for a continuous landscaped buffer and better overall aesthetic design.

Table 3.3-5 Residential and Nonresidential Acquisitions/Partial Acquisitions under the Build Alternative					
	Single-Family Units	Mobile Homes	Multi- Family	Estimated Total Housing Units/Residents	Nonresidential Parcels (Total Number/Employees)
Totals	75	0	0	75/203	6/31
Notes: This table represents a worst-case scenario should all properties be relocated. Estimate of residents based on an average household size of 2.7 residents per unit for Sparks (Census estimates, January 2010, Center for Regional Studies). Estimate of employees is based on the average number of paid workers for the particular industry, as per the 2007 Economic Census for Washoe County and/or the United States, depending on availability; certain data is suppressed by the Census Bureau to maintain confidentiality. No households or businesses were contacted for the information in this table.					
APN	Location			Type	
028-201-21	2915 4 <sup>th</sup> Street			Detached, Single-Family Residence	
028-201-02	430 Gault Way			Detached, Single-Family Residences	
028-201-03	460 Gault Way				
028-201-04	500 Gault Way				
028-201-05	510 Gault Way				
028-201-06	530 Gault Way				
028-201-07	560 Gault Way				
028-201-08	600 Gault Way				
028-201-09	610 Gault Way				
028-201-10	630 Gault Way				
028-201-11	660 Gault Way				
028-201-12	700 Gault Way				
028-201-13	710 Gault Way				
028-201-14	730 Gault Way				
028-201-19	750 Gault Way				
028-201-20	770 Gault Way				
028-201-23	790 Gault Way				
028-203-01	785 Gault Way				

**Table 3.3-5  
Residential and Nonresidential Acquisitions/Partial Acquisitions  
under the Build Alternative**

APN	Location	Type
028-203-02	2795 Nelson Way	Detached, Single-Family Residences
028-203-03	2775 Nelson Way	
028-203-04	2755 Nelson Way	
028-203-05	2735 Nelson Way	
028-203-06	2695 Nelson Way	
028-203-07	2685 Nelson Way	
028-203-12	2675 Nelson Way	
028-203-13	2635 Nelson Way	
028-203-10	2595 Nelson Way	Detached, Single-Family Residences
028-221-07	2575 Nelson Way	
028-221-06	2555 Nelson Way	
028-221-05	2535 Nelson Way	
028-221-04	2515 Nelson Way	
028-221-03	2465 Nelson Way	
028-221-02	2455 Nelson Way	
028-271-02	2365 Nelson Way	
028-271-03	2305 Nelson Way	
028-271-04	2295 Nelson Way	
028-271-05	2275 Nelson Way	
028-271-06	2255 Nelson Way	
028-271-07	2225 Nelson Way	
028-271-08	2195 Nelson Way	
028-271-09	2181 Nelson Way	
028-221-01	790 York Way	Detached, Single-Family Residences
028-271-01	795 York Way	
028-153-27	405 Lenwood Drive <sup>1</sup>	Detached, Single-Family Residences
028-153-06	435 Lenwood Drive <sup>1</sup>	
028-153-05	465 Lenwood Drive <sup>1</sup>	
028-153-04	505 Lenwood Drive <sup>1</sup>	
028-153-03	515 Lenwood Drive <sup>1</sup>	
028-153-02	535 Lenwood Drive <sup>1</sup>	
028-153-01	565 Lenwood Drive <sup>1</sup>	
028-153-24	595 Lenwood Drive	
028-153-23	625 Lenwood Drive	
028-153-22	655 Lenwood Drive	
028-153-21	685 Lenwood Drive	
028-153-20	715 Lenwood Drive	
028-153-19	735 Lenwood Drive	
028-153-18	765 Lenwood Drive	
028-153-17	785 Lenwood Drive	
028-153-25	795 Lenwood Drive	



**Table 3.3-5  
Residential and Nonresidential Acquisitions/Partial Acquisitions  
under the Build Alternative**

APN	Location	Type
028-153-29	3005 Sprout Way	Detached, Single-Family Residences
028-153-30	3035 Sprout Way	
028-153-31	3065 Sprout Way	
028-153-32	3095 Sprout Way	
028-153-33	3105 Sprout Way	
028-153-34	3135 Sprout Way	
028-153-35	3165 Sprout Way	
028-133-05	3215 Sprout Way	
028-133-02	3235 Sprout Way	
028-133-01	3265 Sprout Way	
028-411-31	3277 Sprout Way	
028-411-32	3271 Sprout Way	
028-411-40	791 Mercy Court	Detached, Single-Family Residence
028-011-33	3525 Gwynelle Court	Detached, Single-Family Residences
028-011-35	3535 Gwynelle Court	
028-011-38	3515 Gwynelle Court	

<sup>1</sup> Context-sensitive displacement.

All potential residential displacements would occur on properties located within Sparks, with most of the houses located either in the southeast corner or northeast corner of two of the quadrants formed by the intersection of Pyramid Way and McCarran Boulevard.

The maximum total of 75 houses that may be subject to displacement should the Build Alternative be implemented would represent 0.96 percent of the total number of 7,792 single-family residential houses calculated to be located within a 1-mile radius of the project study area (Property Specialists, Inc., 2011).

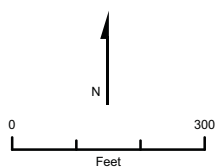
Based on Census data, the average household size for Sparks is estimated to be 2.7 persons; therefore, it is estimated that approximately 203 people would be subject to relocation (Parsons, 2011b).

Relocation impacts are the most sensitive community-related effects associated with this and all transportation improvements because they may involve modifying relationships with people and their homes and neighbors. The displacement of families and households from neighborhoods not only affect those being relocated, but also those who remain residing in the affected neighborhood. In conducting their research in July 2011, the relocation study specialists for this project did not find that there were any extraordinary conditions or special neighborhood issues of concern that would require property acquisition and relocation advisory services above and beyond the standard requirements set forth in the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as Amended (Property Specialists Inc., 2011). Information pertaining to which transportation modes those who may be potentially displaced currently use to commute to work, or other specific information, will be obtained in one-on-one interviews conducted with property owners and tenants in the ROW negotiation phase once the environmental document has been finalized and a Record of Decision issued. Additional or unusual circumstances may warrant additional relocation benefits on a case-by-case basis.





Source: Parsons 2011



#### LEGEND

- Existing Right-of-way
- Proposed Right-of-way
- Proposed Roadway
- Acquired Property



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

### **Residential and Non-Residential Acquisitions**

Figure 3.3-3



It is reasonable to assume that displaced persons would seek replacement housing that is similar in location, cost, and character to their displaced homes. This would allow displaced persons to preserve their community ties, send their children to the same schools, and minimize disruption in their employment and personal activities; however, actual relocation decisions may vary according to personal preferences and economic and housing market conditions at the time of displacement (Property Specialists, Inc., 2011).

RTC, in partnership with NDOT and FHWA, is required to provide relocation assistance. Assistance would include, but not be limited to, moving and re-establishment expenses.

RTC and NDOT would be responsible for acquiring all property necessary for the required ROW to implement the project. NDOT has advised that the acquisition procedures will permit it to pursue an administrative settlement that will make up the difference between a property's fair market value and the outstanding mortgage if the appraised value of the property is less than the mortgage and the homeowner is current on their payments.

No occupants would be required to relocate until comparable – and decent, safe, and sanitary – replacement housing has been made available to them.

### ***Nonresidential Displacement***

None of the eight nonresidential properties listed in Table 3-3-6 and shown in Figure 3.3-3 are involved in commercial or retail sales or are considered service establishments. No heavy industrial operations, farmlands, or public services have been identified for displacement by the Build Alternative.

<b>Table 3-3-6 Nonresidential Displacement</b>				
<b>APN</b>	<b>Street</b>	<b>Property Type</b>	<b>Land Area (acres)</b>	<b>Year Built</b>
028-411-50	3400 Pyramid Way	Church	1.74	1966
028-411-52	695 Queen Way	Vacant Land	2.47	N/A
028-011-52	690 Queen Way	Office	0.40	2000
028-011-53	680 Queen Way	Office	0.27	2000
028-011-54	670 Queen Way	Office	0.44	2000
028-011-40	620 Queen Way	Church; Residence	1.79	1904; 1966
028-011-39	560 Queen Way	Church; Preschool	2.50	1965
028-012-19	SR 445 (NW corner, Pyramid Way and Queen Way	Vacant Land	2.40	N/A

Based on the average number of employees for the three business and three churches that may be directly affected, in a worst-case scenario assuming the Build Alternative would require full ROW acquisitions, approximately 31 paid employees would be displaced by the project.<sup>2</sup> A market analysis conducted for this project as part of the relocation plan indicates the current

<sup>2</sup> Select data derived from the 2007 Economic Census for Washoe County, Nevada.

assessed net values of these nonresidential displacements, including land and improvement values, range from \$2.9 million to \$3.2 million (Property Specialists, Inc., 2011).

As reflected in Table 3-3-6, three properties subject to direct relocation impacts involve houses of worship within the proposed ROW acquisition area. The proposed ROW acquisition of portions of two parcels located on Queen Way would affect both the First Christian Church of Sparks and the Reno Ark Mission Church, but neither is expected to be a consequential displacement because the engineering designs call for only a minor amount of land from each property to be acquired for roadway purposes and the project is not anticipated to alter their use of the land. A full acquisition for a third religious property, the Lord of Mercy Lutheran Church located at 3400 Pyramid Way, is anticipated.

The project would also require land from three commercial office properties located on Queen Way, just east of Pyramid Way. The assumption for the purposes of the following analysis is that they will be displaced. The offices on Queen Way currently support a real estate office (028-011-52), an insurance firm (028-011-53), and a former medical office facility that currently stands vacant (028-011-54). The three offices appear to have plenty of off-street surface parking, and each is located in buildings constructed in 2000.

Relocation of a business may result in unemployment and associated financial impacts. If the company can relocate within the same general area and remain viable, the effects of unemployment would likely be temporary. Neither of the two businesses potentially displaced by the project is considered to be a major employer in the Sparks area. It is expected that both businesses would be able to relocate within the general area. The third business office, currently a vacant medical office, may have difficulty renting its space if the perception is that a proposed transportation project may cause its displacement within 2 or 3 years. A recent real estate property study prepared for this project found the current vacancy rate for offices in Sparks to be more than 20 percent, suggesting that if current economic trends hold, there will be sufficient nearby locations to accommodate any of these businesses ((Property Specialists Inc., 2011).

Nonresidential properties identified for possible acquisition were subjected to a preliminary field survey to determine their general characteristics (Property Specialists Inc., 2011). A full assessment of all affected nonresidential uses would be conducted prior to their acquisition to determine their specific characteristics and values. The individual owners of all affected businesses would be interviewed prior to acquisition to determine the specific needs of each displacement. It is anticipated that the relocation assistance payments would reduce potential impacts to nonresidential properties, and no further mitigation is proposed.

### **Economic Impacts**

The economic impacts of the project include potential local tax revenue effects; business impacts, including related employment effects; and construction-related economic impacts. These impacts are described in the following sections.

#### **Local Tax Revenue**

A potential tax revenue impact of the Build Alternative would result from the conversion of private residences and business properties to public ROW for the project. Although the project may result in an initial loss of property tax revenues for the City of Sparks and Washoe County,



this potential impact would be temporary while residents and businesses relocate following acquisition of their property, though FHWA found in a limited number of studies that approximately 25 percent of businesses displaced by a project opt to close shop altogether rather than relocate. It cannot be predicted what would happen as a result of relocations by this project.

### ***Local Business Impacts***

During construction of the Build Alternative, which is estimated to last between 12 and 18 months, neighborhood-oriented businesses may experience temporary and likely minor adverse economic impacts as a direct result of disruptions to traffic flow and existing traffic patterns. Currently, the shopping plazas and businesses located on Pyramid Way and other nearby streets primarily serve residents who live in the immediate and surrounding areas. Potentially affected businesses include, but are not limited to, those in the Sparks Mercantile Shopping Center located in the southwest quadrant of the Pyramid Way and McCarran Boulevard intersection, which is a primary and highly visible junction. The center, anchored by a Raley's Supermarket and Pharmacy, also includes a Bully's Sports Bar & Grill, Starbucks, and McDonald's (see Figure 3.3-1), as well as a dozen other local retail businesses, including a Winner's Corner Chevron gasoline station and car wash. The egress driveway onto McCarran Boulevard would be moved to the west to accommodate the additional turning lanes on McCarran Boulevard.

The viability of the affected businesses is likely to be largely unaffected during operation of the project, but with improvements to access and operational efficiencies of the intersection, the project should result in long-term retention of consumer patronage; however, it cannot be precisely quantified what net effect the proposed Build Alternative may have on these businesses. While access to businesses will continue as the project is constructed, additional efforts may be warranted to alert existing and potential customers that businesses remain open. Eventually, the reduction in congestion at the intersection may lead to an increase in patronage for these businesses.

While the Build Alternative presents minimal direct impacts to businesses, the disruption of residential housing and potential displacement of up to 75 dwelling units, or an estimated 203 persons, would further reduce the number of customers who would access any of these businesses; therefore, it could also result in a slight economic impact, though this population represents less than 0.86 percent of all people who live within 1-mile of the shopping center, or other nearby business enterprises. Likewise, residents who could be displaced as a result of the Build Alternative may have to find replacement housing in an area not as conveniently located to these services along Pyramid Way, including the retail shops in Sparks Mercantile and the Greenbrae Center and other nearby commercial properties.

### ***Fiscal Impacts***

The removal of up to 75 residences, 6 nonresidential business structures, 2 vacant parcels, and the acquisition of ROW for the proposed action would result in a loss of property tax revenue for the affected local agencies. Acquisition of land and structures currently in private ownership would result in these properties being removed from the property tax rolls, with the revenue loss spread across several government agencies and districts. Based on the current assessed value of private properties that would be acquired under the Build Alternative (assumes full acquisition of all parcels in which there would be structural displacements), assessed valuations would be reduced by an estimated \$11.6 million (total taxable property value) in Sparks and Washoe County.

### ***Employment Impacts***

If offsite relocation of the nonresidential properties is not possible, based on average employment for the type of industry represented, it is estimated the Build Alternative would result in the loss of an estimated 31 jobs. This estimate has been calculated based on the number of paid workers for the particular industry using the most recent Economic Census data available (2007), which is collected by the U.S. Census Bureau every 5 years. The business services currently associated with the real estate office and insurance business, however, would be expected to be picked up by other nearby operations; therefore, there would be a concomitant increase in business at those other locations for a long-term no net loss of jobs.

### ***Construction-Related Economic Impacts***

Should the Build Alternative be implemented, incrementally positive economic impacts to the Reno-Sparks area may be realized. For the 12- to 18-month duration of construction activities, use of local labor and local procurement of materials, goods, and services would result in increased local employment and business activity; however, no permanent employment or increase in business activity is anticipated as a result of construction activities associated with the proposed project.

The standard ratio used by FHWA to estimate the employment effects of investment in highway infrastructure is that every \$1 billion of federal-aid investment supports approximately 30,000 jobs on average. The employment estimate includes three basic types of jobs: direct, supporting, and induced employment.

The job creation ratios employed for this analysis, as shown below, for the Pyramid Way and McCarran Boulevard intersection derive from FHWA's most recent statistical model on employment impacts attributable to highway construction:

- Direct, construction-oriented employment effects of 354 jobs;
- Indirect and supporting industries employment effects of 142 jobs; and
- Induced employment effects of 531 jobs.

Construction of the Build Alternative would also generate temporary economic activity in the city, county, and region, including purchases of goods, materials, and services required for construction, and employment of workers needed for construction from laborers in Washoe County and the surrounding Tahoe Basin region. The economic activity would also prompt secondary economic activity as construction-related business and employee income is spent in sectors throughout the regional economy.

The employment and income effects generated by construction expenditures would be spread over the 12 to 18 months required to construct the project. The extent of construction expenditures on the economies of Sparks, Washoe County, and other parts of Nevada would depend on the proportion of construction expenditures that would occur in the local and regional area and on the residential locations of persons employed by construction contractors for the project.

Table 3.3-7 provides an estimate of the number of positions and level of economic activity created by the expenditure of construction funds for the project. Estimates are based on an input/

output study of construction activity by FHWA in 2007. Funds created in economic output include the multiplier effect of direct construction being respent in service or other sectors of the economy. Economic activity generated by the proposed project is anticipated to benefit the Sparks-Reno region and would also follow the labor and material markets for transportation-related construction (Parsons, 2011b).

<b>Table 3.3-7 Construction Investment in the Pyramid Way and McCarran Boulevard Intersection Improvement Project (in millions of dollars, 2007)</b>				
<b>Alternative</b>	<b>Construction Value*</b>	<b>Supporting Industries Employment</b>	<b>Regional Economic Output (Total Employment Income)</b>	<b>Job Creation (Person Years of Employment)</b>
Build Alternative	\$35.4	\$67	\$40.7	364
No Build Alternative	N/A	N/A	N/A	N/A

\* This figure does not include the cost for potential ROW acquisition.

There are also monetary savings that would accrue to the region from improvements in the intersection operating more efficiently, including such user benefits as savings in fuel, oil, tires, and auto repair and maintenance; mobility savings, including travel time savings; and safety savings, including reduction in property damage and medical costs attributable to automobile crashes.

## **Construction Impacts**

### ***No Build Alternative***

Under the No Build Alternative, no changes to the current alignment are proposed. The existing number and configuration of lanes would remain the same as in current conditions. There would be no full or partial acquisitions of residential or business properties. Some slight economic impacts related to loss of business during construction may be avoided. Traffic-related impacts the community is currently experiencing would continue under the No Build Alternative.

This alternative would not address the proposed project's purpose and need and is inconsistent with the Washoe County 2040 RTP. The LOS of the intersection would continue to worsen over time. Current traffic safety issues at the intersection would not be resolved. Planned development and growth in the north area near Spanish Springs, though somewhat slowed down in the short term due to economic conditions, is expected to continue and eventually contribute to an increase in traffic congestion along south Pyramid Way in the morning and McCarran Boulevard in the afternoon, resulting in long queues and further degradation of the LOS. The No Build Alternative would further exacerbate impacts to the livability of the local neighborhoods as automobile traffic increases in the coming years, especially as growth continues to the north. Motorists would likely seek out what they would perceive as ways to bypass the bottleneck intersection, including commuting from the Spanish Springs area towards downtown Reno via Wedekind Road.

### ***Build Alternative***

Residential sections of the study area could experience temporary adverse impacts from noise and dust generation during construction. Dust generation would be minimized by application of



special provisions during construction, including standard measures such as regular watering, covering exposed dirt piles, and construction site maintenance.

Construction noise would be intermittent and intensity would vary. The degree of construction noise impacts may vary for different areas of the project site and also depending on the construction activities undertaken. Long-term noise exposure descriptors are difficult to quantify due to the intermittent nature of construction noise. Highway construction is accomplished in several different phases. During the construction period, some of the sensitive receptors that are in close proximity to the intersection area would be exposed to higher noise levels. Effective noise control during construction of a project means minimizing noise disturbances to the surrounding residential community. A combination of techniques, including equipment noise control and administrative measures, would provide the most effective means of mitigation.

### **3.3.4 Indirect Impacts**

As noted in 40 CFR 1508.8, indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate.

Sparks was reported to be the fastest growing city in Nevada between 2000 and 2008, with a population estimated to have increased from 66,324 in 2000 to 92,315 in 2008. For the most part, up until recently, most of the City's development was occurring within large planned developments. New household developments generate increased automobile traffic, which in turn create a demand for new roadway capacity to forestall worsening congestion. The Pyramid Way and McCarran Boulevard Intersection Improvement Project is responding to, not driving, planned development in Sparks and Spanish Springs Valley.

By reducing travel time during peak hours between the residential and commercial areas located north of Queen Way and metropolitan Sparks-Reno, the project would decrease driver commute times; however, this potential travel time savings is not considered substantial enough that people or businesses would give weight to this factor alone as a rationale for moving or shifting operations from one part of the region to another. Therefore, this project is not considered growth-inducing. The project would not open up new areas to development, nor is it expected to lead to changes in land use or rezoning.

### **3.3.5 Cumulative Impacts**

#### ***Past and Present Actions***

Sparks has been impacted by construction of highways, secondary roads, and residential, commercial, and industrial development. The extent of development activities has resulted in the loss of natural resources and urbanization. The study area immediately surrounding the Pyramid Way and McCarran Boulevard intersection was developed starting in the late 1950s and was substantially built-out by the 1970s. As such, notable population growth would be restricted within the immediate project area.

In the past few years, Sparks has experienced a significant drop in new developments. The number of construction permits issued by the City of Sparks jumped from 3,609 in 2000 to a plateau of 6,033 in 2006. With the economic downturn in 2007-2008, the City issued 2,007 permits in 2010, a two-thirds drop from the number issued 4 years earlier. Another measure of the changed

economic picture in Sparks is to look at the City's total annual construction value – from a high of more than \$382 million in 2006 to slightly less than \$57 million in 2010. Before the economic climate so drastically changed, many phased major development and master-planned community projects were in various stages of approval and construction (see Table 3.3-8).

<b>Table 3.3-8 Recently Completed/Current Major Developments in Northern Sparks</b>			
<b>Name</b>	<b>Project Size</b>	<b>Status</b>	<b>Notes/Location</b>
Kiley Ranch South	632 units.	482 units completed.	East side of Sparks Boulevard, 1.5 miles north of Los Altos Boulevard.
Spanish Springs Town Centre	General commercial land uses on 41 acres.	17.9 acres have been developed.	A tire store and auto parts store are currently under construction as of summer 2011.
Sparks Crossing	General commercial land uses on 41 acres.	41 acres have been developed.	Currently, there are a large amount of vacant units.
Stonebrook	Residential (2,135 dwelling units), retail and commercial land uses on 610 acres.	0 acres have been developed, the tentative maps have expired.	South of La Posada, east of Pyramid Highway.
Sparks Galleria	A mixed-use development, including general commercial, professional offices, and 175 housing units on 133 acres.	Partially open; other elements still under construction.	Located north of the extension of Disc Drive to Pyramid Highway. Project includes Home Depot, Costco, and Office Depot.
Kiley Ranch North	A mixed-use development, including commercial and business parks, and between 3,000 and 4,000 residential units on 808 acres.	Being built in phases; 60 acres have been developed as of summer 2011, the project is in bankruptcy proceedings.	Located at the intersection of Sparks Boulevard and Kiley Ranch Parkway. The project dedicates acreage to schools, parks, and open space.
Pioneer Meadows	A master-planned community with approximately 2,500 housing units and manufacturing, office, and medical facilities.	Villages 1, 2, 3, 4, and 9 under construction.	Located south of the Wingfield Springs at the intersection of Vista Boulevard and Wingfield Hills Road.
Tierra Del Sol	115 single-family units on 17.9 acres, 24.74 acres of commercial.	27.8 acres have been developed.	The development includes 7.1 acres dedicated for open space.
Miramonte	960-acre residential development with 986 single-family homes.	166 units completed.	Located south of Wingfield Springs. The project includes 551 common use areas and 4 acres of neighborhood parks.
The Foothills at Wingfield Springs	Approximately 1,978 single-family dwellings and 300 multi-family units on 690 acres.	Approvals granted; 1,070 units completed.	Commercial land use areas redesignated for multi-family; Plans for commercial site amended to include a new school.
Spring Mountain Development	6,105 acres, approximately 12,000 residential units	Approvals granted, no construction.	Located 30 miles north of the project area.

### ***Reasonably Foreseeable Actions***

Most of the recently completed or current master-planned developments are located in the north reaches of the municipal area or just beyond the political boundaries of the City of Sparks, in Spanish Springs Valley. Construction and build-out of these planned developments would

generate substantial traffic impacts on Sparks because their nearly sole access to greater downtown Reno is via Pyramid Lake Highway through the Pyramid Way and McCarran Boulevard intersection. In response to the planned development north of the project area, RTC is conducting the Pyramid Highway – US 395 Connection Project EIS study. This study is evaluating alternatives to relieve traffic congestion on Pyramid Highway and provide improved east/west community connectivity from Pyramid Highway to US 395 and east to Vista Boulevard. The Pyramid Highway – US 395 Connection Project would likely displace residents and businesses to the north and west of the Pyramid Way and McCarran Boulevard project limits; however, while the planning process is still ongoing, it is not anticipated that construction or operation of the Pyramid Way and McCarran Boulevard Intersection Improvement Project and the Pyramid Highway – US 395 Connection Project would result in cumulative impacts to land use, population, or community cohesion.

The Build Alternative is consistent with plans and policies adopted by the City of Sparks, the Truckee Meadows Regional Planning Agency, and RTC. In particular, the proposed project is consistent with the overarching goals and policies as set forth in the City of Sparks Comprehensive Plan, which is in the process of being updated; the Truckee Meadows Regional Plan, which was last updated in 2007; and the RTP of Washoe County, which was approved in 2008.

### **3.3.6 Environmental Justice**

All projects involving a federal action (i.e., funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed on February 11, 1994, and intended to direct agencies to recommit to the principles embedded within Title VI of the Civil Rights Act of 1964, which provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal assistance. The Executive Order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of projects on minority and low-income populations to the greatest extent practicable and permitted by law.

The general principles required under EO 12898 are as follows:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations;
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

In May 2012, the U.S. Department of Transportation (USDOT), which includes FHWA, updated its directive, USDOT Order 5610.2(a) to “Address Environmental Justice in Minority Populations and Low-Income Populations,” which expands upon the requirements of the Executive Order and generally describes the process for incorporating environmental justice principles into all USDOT programs, policies, and activities. The Order specifically identifies NEPA as the process through which the goals of EO 12898 are to be integrated. It also states that



the findings, determinations, and/or demonstration of projects to be in accord with the USDOT Order must be appropriately documented in an EIS or other NEPA document. In June 2012, FHWA updated its order, FHWA Order 6640.23A, “FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” For purposes of environmental justice, the USDOT Order defines “minority populations” as those persons identifying themselves as Hispanic or Latino, Black or African-American, American Indian and Alaska Native, Asian, and Native Hawaiian and other Pacific Islander. “Low-income” is defined as persons with household income at or below the federally defined poverty threshold, which is based on the U.S. Department of Health and Human Services (HHS) poverty guidelines. For 2011, this is \$22,350 for a family of four.

Environmental justice populations are communities that meet at least one of the following criteria:

- A minority population should be identified where the minority population of the affected area exceeds 50 percent of the total population of the community.
- The low-income or minority population is meaningfully greater than the City or County average.<sup>3</sup>

As a first order of business, FHWA requires a determination be made as to whether environmental justice populations may be affected by the proposed project. Unfortunately, no demographic data collected by government entities neatly lines up to meet the criteria of what comprises an environmental justice minority population. The best source for population data is the U.S. Census Bureau’s decennial census. To protect privacy, the Census Bureau does not publish detailed house-by-house data, but instead compiles the information into larger geographic units. Data aggregated at the Block Group level is the smallest geographic unit for which the Census Bureau publishes both demographic data (e.g., race, age) and socioeconomic data (e.g., income, poverty levels). Block Groups are generally the size of several city blocks; therefore, they are often useful for representing the characteristics of a “community.”

As can be discerned from Table 3.3-9, the proposed project area encompasses portions of four census tracts from which socioeconomic data from the 2010 U.S. Decennial Census have been collected.<sup>4</sup> From Table 3.3-9, certain key observations about the composition of the local population can be deduced.

As statistically shown in Table 3.3-9, the overall racial composition of the project study area is predominantly White, ranging from a low of 69 percent upwards to a high of 87 percent, with obviously much lower corresponding population percentages of Blacks, Asians, Latinos, Native Americans, and Native Hawaiian/Pacific Islanders.

---

<sup>3</sup> Council on Environmental Quality, *Environmental Justice Guidance under the National Environmental Policy Act*, December 10, 1997, p. 25; it has come to be generally accepted in environmental planning practice for federal projects that “meaningfully greater” is 10 percent or greater than the jurisdiction against which the social and economic data is being compared.

<sup>4</sup> The category of “Some Other Race” was included in Census 2000 for the first time. Respondents who provided entries such as South African, Belizean, etc., or a Hispanic origin (e.g., Mexican, Puerto Rican) are included in the “Some Other Race” category and referred to as Latino or Hispanic in this document.

**Table 3.3-9  
Race and Ethnicity**

<b>Geographic Area</b>	<b>% White</b>	<b>% African American</b>	<b>% American Indian / Alaska Native</b>	<b>% Asian</b>	<b>% Native Hawaiian / Other Pacific Islander</b>	<b>% Some other Race<sup>1</sup></b>	<b>% Two or more Races</b>
Block Group 1, Census Tract 28.01, Washoe County, NV	84.7	5.8	0.0	3.1	4.0	0.0	2.4
Block Group 2, Census Tract 28.01, Washoe County, NV	80.0	0.9	4.7	0.0	0.0	13.5	0.9
Block Group 4, Census Tract 28.02, Washoe County, NV	59.5	3.9	6.7	5.3	0.4	20.5	3.8
Block Group 1, Census Tract 29.01, Washoe County, NV	86.1	0.0	0.2	1.8	0.8	7.5	3.6
Block Group 3, Census Tract 29.01, Washoe County, NV	80.2	1.9	0.0	4.1	0.0	7.9	5.9
Block Group 1, Census Tract 29.02, Washoe County, NV	69.2	2.6	2.1	4.1	0.0	19.6	2.5
Block Group 2, Census Tract 29.02, Washoe County, NV	72.7	2.2	0.0	1.2	0.0	16.9	7.0
Washoe County	77	2	2	5	<1	10	4
State of Nevada	66	8	1	7	<1	5	4

<sup>1</sup> The category of "Some Other Race" was included in Census 2000 for the first time. Respondents who provided entries such as South African, Belizean, etc., or a Hispanic origin (e.g., Mexican, Puerto Rican) are included in the "Some Other Race" category and referred to as Latino or Hispanic in this document.

Source: 2010 U.S. Census. Percentages have been rounded off so that they may not equal exactly 100%.

Table 3.3-9 shows that within the study area none of the affected Block Groups contains a total minority population greater than a third of the total population residing within that particular Block Group. Block Group 4 of Census Tract 28.02, which encompasses area west of Pyramid Way on the south side of McCarran Boulevard, similarly contains a higher percentage (20 percent) of people who identify themselves as "Some Other Race," a category that largely represents those who are Hispanic/Latino and whose percentages are more than 10 percentage points higher than the Washoe County average of 10 percent; based on the preceding criteria, this constitutes an environmental justice community. However, it should be noted that the project as proposed would not directly impact or displace environmental justice populations residing within the Census Tract Block Groups bordering Pyramid Way to the west; the land uses directly fronting Pyramid Way are all nonresidential properties, chief among them the Sparks Mercantile retail shopping center.

Table 3.3-10 shows data for income and poverty levels for the project study area and Washoe County. The data indicate that a smaller percentage of people residing in the project area were living below the federal poverty level threshold than was true of the city of Sparks as a whole or Washoe County; therefore, for purposes of screening for environmental justice concerns, the project area is not considered a low-income community.

<b>Table 3.3-10 Median Income</b>			
<b>Geographic Area</b>	<b>Median Household Income</b>	<b>Persons per Household</b>	<b>1999 Poverty Line</b>
Block Group 1, Census Tract 28.01, Washoe County, NV	\$66,944	3.0	\$13,880
Block Group 1, Census Tract 29.01, Washoe County, NV	\$61,250	3.0	\$13,880
Block Group 1, Census Tract 29.02, Washoe County, NV	\$41,594	2.9	\$13,598
Block Group 2, Census Tract 29.02, Washoe County, NV	\$37,458	2.6	\$12,752
Block Group 2, Census Tract 29.01, Washoe County, NV	\$44,896	2.8	\$13,316
Block Group 2, Census Tract 29.02, Washoe County, NV	\$51,157	2.9	\$13,598
Block Group 3, Census Tract 29.01, Washoe County, NV	\$59,375	2.9	\$13,598
Block Group 4, Census Tract 28.02, Washoe County, NV	\$45,588	2.6	\$12,752
Washoe County, NV	\$45,815	2.4	\$12,188
State of Nevada	\$44,581	2.7	\$12,752

Note: Data released from the 2010 Census as of August 2011 is available at the Block Group level only for population-based information and is not specific to income. The federal poverty line or level is issued each year by the Department of Health and Human Services, and is used for determining financial eligibility for certain federal programs, including Medicare, Family Planning Services, and the Community Food and Nutrition Program, among others. They are a simplified version of the Census Bureau's poverty thresholds and the same for the 48 contiguous states. Neither the Census Bureau nor the Department of Health and Human Services (HHS) tabulates the number of people below the HHS poverty guidelines. The best approximation for the number of people below the HHS poverty guidelines in a specific area would be the number of persons below the Census Bureau poverty thresholds in that area. Information taken from the Department of HHS, Office of the Assistant Secretary for Planning and Evaluation. Accessed at: [www.aspe.hhs.gov/poverty](http://www.aspe.hhs.gov/poverty) on November 14, 2011.

Based on this analysis, a minority population statistically large enough to constitute an environmental justice community exists within and adjacent to the proposed project area and straddling both sides of Pyramid Way, south of McCarran Boulevard. In such cases, agencies are expected to have a heightened awareness of the potential for disproportionately high and adverse impacts, should involve these populations in the transportation decision-making process in a proactive manner, and be sensitive to these populations in carrying out their activities.

Disproportionately high and adverse impacts on minority populations and/or low-income populations have been defined as an adverse effect that:

- Is predominantly borne by a minority population and/or low-income population; or
- Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

Under the Build Alternative, the proposed project would directly and adversely impact minority population households because they are located within Census Block Groups that would experience displacements and they have a percentage of such populations within them; despite



that, these Block Groups contain more than two-thirds non-minority residents. It is not expected that displacements would be predominantly experienced by minority population households or that they would be appreciably more severe or greater in magnitude than the adverse effects involving displacements that would be suffered by the non-minority population households.

None of the businesses that provide specialty goods and services that might cater to the area's multiethnic populations, especially Hispanic, as exhibited by the variety in services and languages displayed on signage, are known to be directly located within the project area.

Noise levels are expected to change as a result of implementation of the project; however, privacy walls and fences, as well as soundwalls, are being planned as mitigation and would be constructed according to noise abatement criteria established by FHWA and NDOT, irrespective of demographic composition of the neighborhood.

Rather than be burdened by the proposed project, the local community and area commuters would experience net benefits because they would see a reduction in overall travel time and improved safety. While the extent to which minority populations would experience these benefits cannot be precisely quantified, the accessibility of destinations by members of these population groups would not be restricted in any manner, and there are no known local community resources for which accessibility would be altered as a result of the project.

The proposed project would:

- Alleviate idling caused by long queues at the intersection, which in turn would improve localized air quality conditions.
- Aid in eliminating a major bottleneck.
- Not eliminate any transit stops adjacent to the community, nor affect transit service.
- Not affect direct access to any neighborhood or community facility.
- Not displace or affect any community resources known to be important to minority populations.

In addition to the preceding project-level environmental justice analysis, RTC has analyzed and considered the environmental justice aspects of its overall slate of transportation projects and services and devoted a specific section to the issues of environmental justice and equity in its 2040 RTP. Local agencies typically set their own thresholds or criteria for defining low-income and minority communities, with oversight by the State DOT and FHWA for Title VI of the Civil Rights Act compliance. The analysis performed for the 2040 RTP update, approved November 21, 2008, established that a minority population consists of any Census Tract with at least 30 percent of its population being collectively defined by minority classifications; a low-income population consists of any census tract with at least 15 percent of its residents being below the poverty level.

Based on the above population thresholds, the 2040 RTP indicates the Pyramid Way and McCarran Boulevard Intersection Improvement Project study area comprises an environmental justice population based on its minority population percentages; the project study area does not contain what is considered a low-income community. The analysis conducted for the RTP concluded that with past implementation of overall program of projects and activities there is a

clear pattern that Washoe County's disadvantaged population groups have received reasonably proportional benefits and borne reasonably proportional burdens, and that the pattern of basic fairness and equity among all population groups will continue into the foreseeable future under the approved 2040 transportation planning and funding scenarios.<sup>5</sup>

### **3.3.7 Mitigation**

NDOT will be acquiring all property necessary for the required ROW for the proposed project and will observe the rights and services required under Public Law 91-646, Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. The Uniform Relocation Act requires that relocation assistance be provided to any person, business, farm, or nonprofit operation displaced because of the acquisition of real property by a public entity for public use. Compliance with the federal act is required by any public agency where federal funds are to be used in the acquisition or construction of a proposed project. It is NDOT and FHWA policy that persons displaced as a result of transportation programs and projects shall receive fair and just compensation, and equitable and humane treatment, and shall not suffer unnecessarily as a result of programs designed for the benefit of the public. All eligible displacees will be entitled to moving and re-establishment expenses. All benefits and services will be provided without regard to race, color, religion, age, national origins, and disability as specified under Title VI of the Civil Rights Act of 1964, as amended.

NDOT has determined that the acquisition procedures will permit it to pursue an administrative settlement that will make up the difference between a property's fair market value and the outstanding mortgage if the appraised value of the property is less than the mortgage.

While financial assistance helps to offset the adverse economic impacts of residential relocation on households, sometimes adverse psychological and social impacts associated with the relocation process befall those who have a more difficult time in moving. Certain population groups, such as senior citizens and non-English speaking people, have especially strong community ties and depend on primary social relationships and important support networks that can be severed upon relocation. Households with school-age children may consider relocation disruptive if school transfers would be involved.

Additional or unusual circumstances may warrant other mitigation measures on a case-by-case basis. This is accomplished during the property acquisition phase through the negotiation process between the property owner and tenants, if any, and NDOT.

All of the fire protection, police services, and emergency response units in the project area will be informed of the construction period well in advance of the work. In addition, all facilities will be open during the construction period, though at times response time may be temporarily slowed because of lane closures.

Construction will be staged so that access to businesses will not be blocked or substantially impeded.

RTC will coordinate lane closures and other construction activities with emergency service providers and the community-at-large.

---

<sup>5</sup> Washoe County 2040 Regional Transportation Plan, Chapter 11—Environmental Justice, November 21, 2008.

### **3.4 Visual Resources**

#### **3.4.1 Regulatory Setting**

NEPA and CEQ regulations to implement NEPA both discuss visual impacts under the heading of aesthetics. These regulations identify aesthetics as one of the elements or factors in the human environment that must be considered in determining the effects of a project. Furthermore, Title 23, United States Code (U.S.C.) 109(h) cites “aesthetic values” as a matter that must be fully considered in developing a project.

#### **Nevada Department of Transportation**

Since 2000, NDOT has developed many planning documents/design guidelines for highway corridors under their jurisdiction. Pyramid Way (SR 445) and McCarran Boulevard (SR 659) are state highways. In addition to the documents discussed below, NDOT has also developed many Landscape and Aesthetic Corridor Plans. These include the US 395, West US 50, US 28, SR 207, and SR 431 plan and another for the urban areas of I-80 within Washoe County; however, neither of these documents specifically addresses the Pyramid Way or McCarran Boulevard sections of roadway.

**Aesthetic Alternatives for NDOT Design Standards:** This document contains a library of aesthetic alternatives to existing NDOT practices. The document is considered a working resource that promotes knowledge of practical information needed to implement aesthetic alternatives to conventional designs.

**Pattern and Palette of Place: A Landscape and Aesthetics Master Plan for the Nevada State Highway System:** This document serves as the Master Plan Document for the State and establishes the goals of the landscape and aesthetic program for the Nevada State Highway System.

**Scenic Routes:** SR 445 (Pyramid Highway) is a designated Scenic Route; however, the designation begins north of the project area near the Pyramid Lake Paiute Indian Tribe Boundary and heads north. No Scenic Routes are found within the project area.

#### **City of Sparks**

The project area is within Sparks, just south of the West Pyramid Planning Area, which has a developed land use plan and goals; however, the project area does not currently have a similar developed planning document. For the project area, the Sparks Municipal Code and Design Standards would apply to local development. Although this State-owned route is not under jurisdiction of the local planning authorities, the following planning policies and guidelines are indicators of the general level of community sensitivity regarding the aesthetic character of the region and of the project area.

**City of Sparks Municipal Code:** The Municipal Code establishes the ordinance to support the goals and policies established in the General Plan. Among other elements, the code establishes a Site Plan Review with the purpose of determining whether the proposed use, building, structure addition, or change to any building will conform to City requirements. The Site Plan Review also ensures the development of an aesthetically acceptable and well-ordered community. The Municipal Code also establishes the requirements for resource-efficient landscaping.

**Design Standard Manual:** The City of Sparks has developed a Design Manual to support the zoning codes. The manual contains design standards that are “qualitative” rather than “quantitative.”

### **3.4.2 Methodology**

The visual effects of changes in the viewshed as a result of the Pyramid Way/McCarran Boulevard Intersection Improvement Project are based on site visits, review of local planning documents, project drawings, photographs of the project area, and plans and typical cross-section illustrations of the proposed project. For this assessment, the viewshed analyzed extends 0.25-mile from the alignment in undeveloped and open areas. Within urban areas, the viewshed is confined by the buildings that border the alignment.

This visual assessment was prepared consistent with the methodologies established by FHWA’s *Visual Impact Assessment for Highway Projects* (1981). This methodology was selected because it is customarily used along highway corridors. Typical views, called key viewpoints, are selected for the project area to represent the views to/from the proposed project.

Existing visual quality from the viewpoints is judged by three criteria: vividness, intactness, and unity.

### **3.4.3 Viewers and Viewer Sensitivity**

For clarity, the project area was divided into intersection quadrants, and typical views within each of these were documented. These can be seen in Figures 3.4-1 through 3.4-4. Descriptions of the existing visual character/quality for the corridor are divided by the four intersection quadrants. This allows for a more in-depth discussion of the visual environment of the project area. The description includes a figure that illustrates, through photographs, typical views within each quadrant. Key viewpoints, used for creating simulated images of anticipated changes within each unit, are identified with a star. The FHWA analysis methodology recommends selecting many key viewpoints that represent the potential visual effects of the project and the viewers’ experience. The key viewpoints include a representation of critical visual elements of the proposed project and viewer group types.

Viewers are grouped by how they may view the project area. They are by no means a uniform grouping of individuals, but rather groupings of persons who view the project from a certain standpoint. It is possible for any one individual to be in more than one group depending on time of day or location, such as a resident and a highway traveler; however, the experience of each would be different (i.e., viewing the project while traveling on the highway would be different for a resident than viewing it from the front porch of his or her house).

#### ***Commuters***

Daily commuters may have an increased awareness of views from the road due to the amount of time they are exposed to the corridor each day. With congested traffic, the length of time to notice changes increases and drivers have a longer time to focus their attention on the roadway elements. When traveling at posted speeds, these drivers tend to focus on long- to mid-range views straight ahead. Passengers tend to have more time to observe views and a wider range of views than do drivers. Both Pyramid Way and McCarran Boulevard are heavy commuter routes. The current traffic causes longer delays to traffic, affording the drivers longer view periods to the surrounding areas.



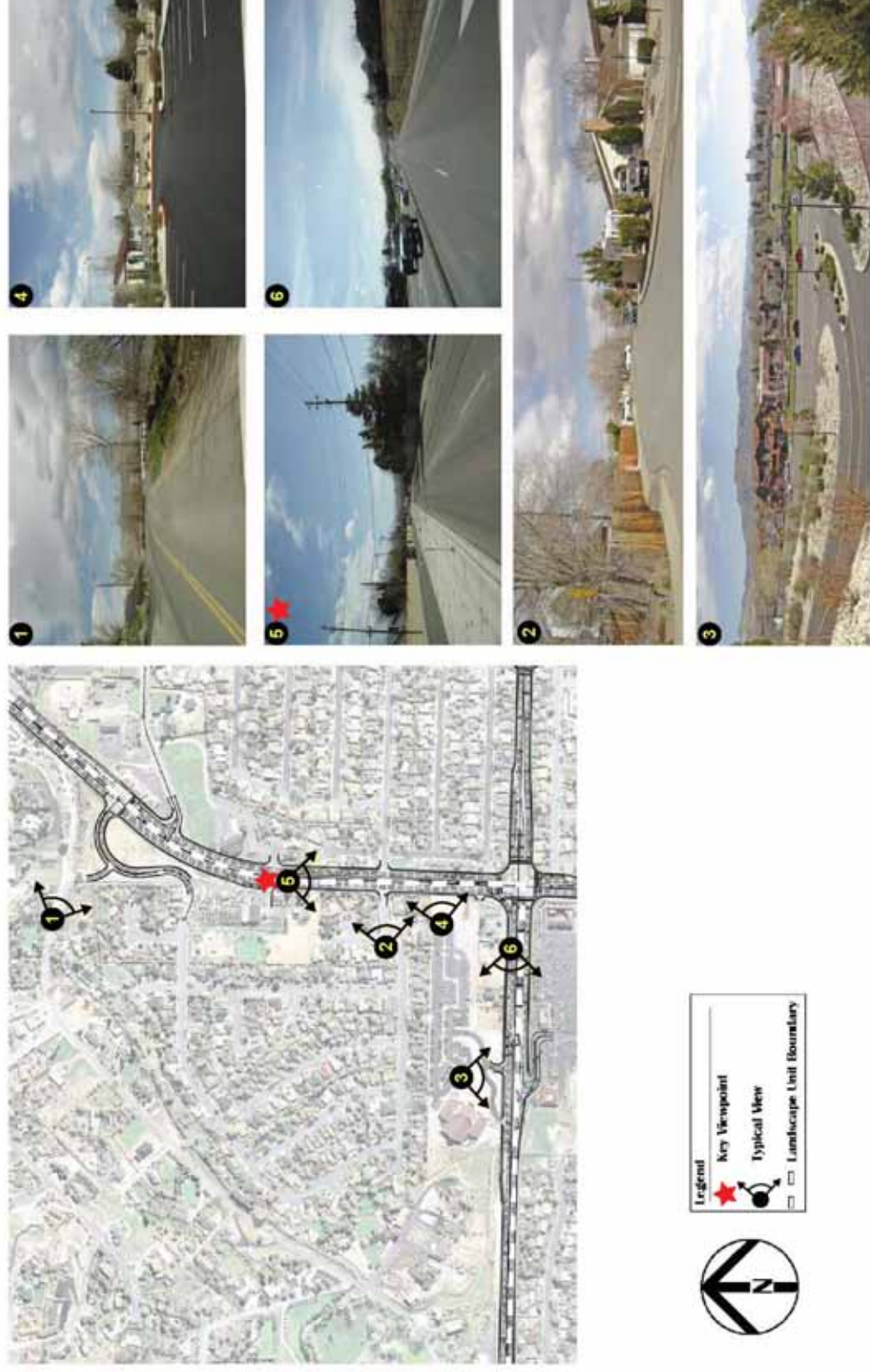




Figure 3.4-2 Northeast Quadrant Typical Views

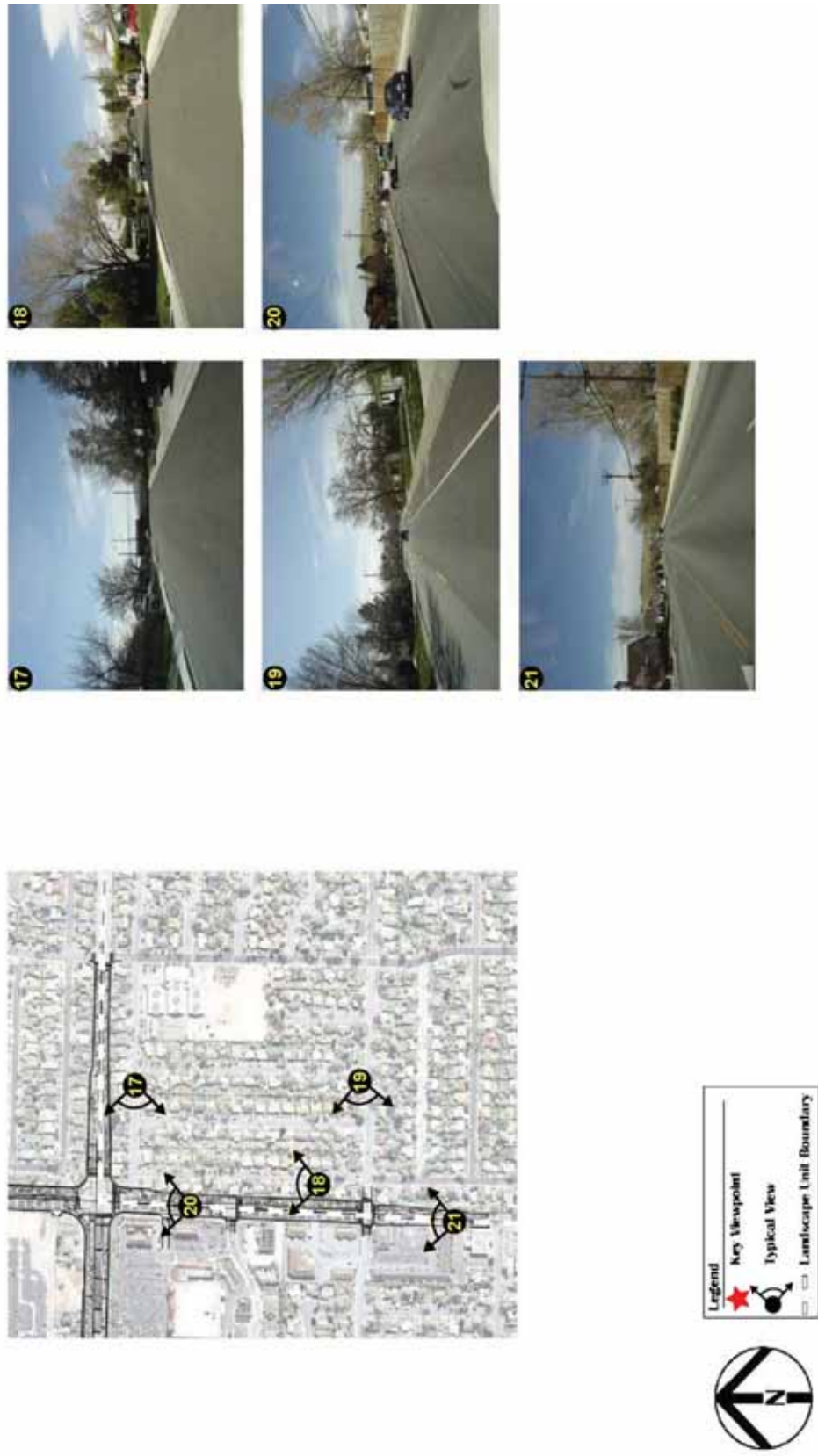
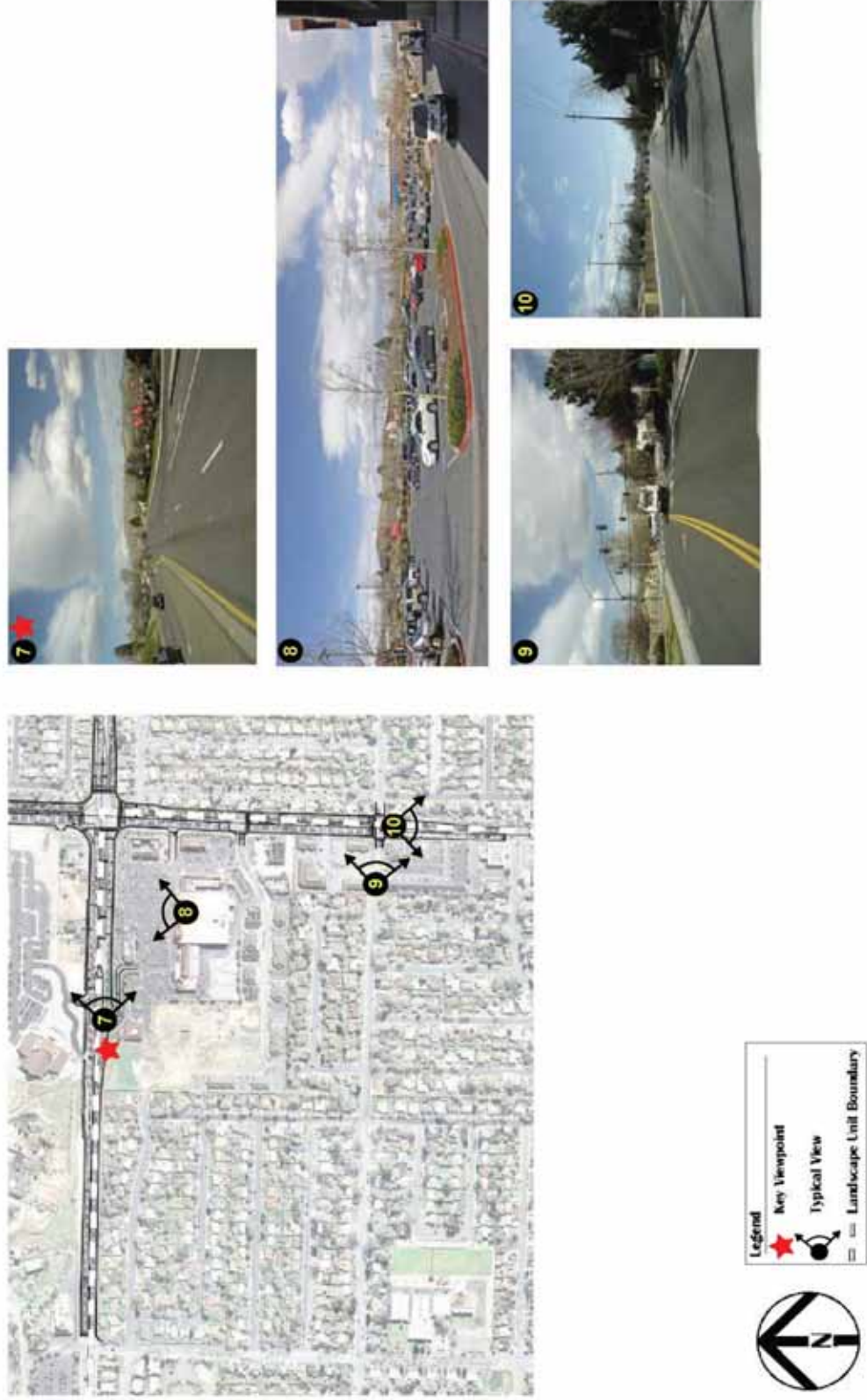


Figure 3.4-3 Southeast Quadrant Typical Views







### ***Community Residents***

There are many residents that live adjacent to the project roadways. Some of these homes directly face onto the roads, giving the residents fore- to mid-ground views of the corridor; however, most of the existing homes back onto the roadway corridors and have concrete block walls or wood fences that screen views to the corridors. Residents would have long-term duration views and can be expected to have a high concern about the project and its effect on views from their homes and neighborhoods. These views from the highway would be expected to be of short duration. For most of the two roadway corridors where there is existing residential, the homes back up to the roadway corridors with a privacy wall or fence separating the roads from the residents. One notable exception is in the area of Mercy Court where the homes effectively face onto Pyramid Way.

### ***Church and Commercial Area Attendees, Patrons, and Employees***

There are potentially hundreds of viewers per day with short-duration views into the project corridor from the church and business parking lots along the corridor. These views would be fore- to mid-ground views, and they are partially obscured by the landscape plantings in some locations, especially at the Sparks Mercantile Center in the southwest quadrant of the intersection.

The views for employees and customers of the businesses along the corridor are most likely short in duration. These viewers would have a moderate to low awareness of the project. The principle concern is likely to be obstruction of views to the businesses from the roadway travelers.

### ***Local Street Users***

Because the speed of travel of these viewer groups is much slower than that of the two highways in the study area, it can be expected that they would have a greater awareness of changes to the visual environment than the highway users. Views to the corridor would move from back- and mid-ground views to foreground views as drivers near the project corridor from neighborhood roads.

### **3.4.4 Impacts**

Most of the proposed changes to the intersection area are related to the widening of the two roadways and inclusion of a triple left-turn lane from eastbound McCarran Boulevard to northbound Pyramid Way. The residences that back up to Pyramid Way, both north and south of the intersection, would be removed because the roadway widening generally occurs in that direction. Residences along the north and south sides of McCarran Boulevard, east of the intersection, would also be removed.

In addition to new paving required in the locations where the existing residences are to be removed, privacy walls/fencing would be constructed within a landscaped area. The net effect of the inclusion of the privacy walls/fencing and landscaped area would be to provide a visual buffer to the remaining homes in the neighborhoods that would now front the two main roadways (i.e., across the existing local streets). The privacy walls/fencing would shield the homes in the neighborhoods from the widened roadways and maintain the existing high level of access control.

From the perspective of the traveler on Pyramid Way and McCarran Boulevard, the amount of visible landscape would be greatly increased by the addition of this landscaped sidewalk/pathway. The corridors have very limited landscaping to soften the existing walls and fences that back up to the ROW. Most of the existing landscape occurs in association with the commercial areas, including the Sparks Mercantile Center and the commercial areas near Queen Way.

Changes to the visual environment for each of the four quadrants are discussed below.

### ***Northwest Quadrant***

In general, views for the northwest quadrant are anticipated to be similar to the existing. For properties adjacent to the two roadways in the northwest quadrant of the project area, the ROW acquisitions are anticipated to be minimal; therefore, the change in visual character and quality of this quadrant is anticipated to be limited. Exceptions to this are located at the northern edge of this quadrant along Pyramid Way where Queen Way is to be reconfigured. Views in the area of the reconfigured Queen Way would be similar in character, but different in content, due to the new road alignment. The new alignment would also move the roadway away from the homes on Lagomarsino Court.

Along McCarran Boulevard in the vicinity of the Immaculate Conception Catholic Church entrance/exit, retaining walls are anticipated. These would be located immediately behind the sidewalk, but they are anticipated to be less than 3 feet in height.

### ***Southwest Quadrant***

Similar to the northwest quadrant, the southwest quadrant has limited proposed ROW acquisitions, so from the point of view of the businesses along Pyramid Way and McCarran Boulevard, the views would be similar to the existing.

### ***Southeast Quadrant***

Within the southeast quadrant of the intersection, homes that back onto Pyramid Way from south of York Way all the way north to the intersection with McCarran Boulevard, and along McCarran Boulevard in the area of the intersection, would be removed for the project. The remaining residents along Nelson Way and Gault Way (across the street from removed residences) would have a change to the visual character of their neighborhood streetscape. Privacy walls/fencing would be constructed to separate the remaining homes on Nelson Way and Gault Way from the widened roadways. Depending on the final design, these residents might have partial views out onto Pyramid Way, but this would depend on many factors, such as wall/fence/berm height, planting densities, or breaks for access.

### ***Northeast Quadrant***

Similar to the southeast quadrant, homes currently backing onto the ROW along Pyramid Way north of the intersection and McCarran Boulevard east of the intersection would be removed for the project. The remaining residents along Sprout Way and Lenwood Drive (across the street from removed residences) would have a change to the visual character of their neighborhood streetscape. Privacy walls/fencing would be constructed to separate these remaining homes from the widened roadways. Depending on the final design, these residents might have partial views

out onto Pyramid Way, but this would depend on many factors, such as wall/fence/berm height, planting densities, or breaks for access.

### **Roadway Users**

Residents, commuters, and others traveling either on Pyramid Way or McCarran Boulevard would likely notice the change in character of the roadways. Both would appear wider to the traveler on the road at specific locations. In the case of Pyramid Way, removal of the residences and the wall along the east side of the roadway, coupled with the addition of landscape, would likely be a positive departure from the existing visual character and quality.

### **Glare**

The existing roadways are well lit with street lighting. The proposed project is not anticipated to change the existing lighted conditions or add a new source of light or glare.

### **Key Viewpoints**

The FHWA analysis methodology recommends selecting many key viewpoints that represent the potential visual effects of the project and the viewers' experience. The key viewpoints include a representation of critical visual elements of the proposed project and viewer group types. The postconstruction simulations shown for the key viewpoints on the following pages include application of best management practices (BMPs) and avoidance and minimization measures to the extent feasible for each particular view.

The following views might potentially be affected by the project. Aesthetic treatments shown on structures and specific plant types in the simulations are representative only. Actual types of treatments and landscaping would be determined in final design and would follow the provisions in the Landscape and Aesthetics Master Plan for the Nevada State Highway System (NDOT). The three key viewpoints within the project area are described below:

**Key Viewpoint #5:** The photograph (Figure 3.4-5) was taken on southbound Pyramid Way, looking towards the intersection with McCarran Boulevard. This viewpoint was selected as key because it presents the changes to Pyramid Way north of the intersection, including removal of existing residences along the east side of the roadway and the addition of a landscape area.

**Key Viewpoint #7:** This image (Figure 3.4-6) was taken from the eastbound lanes of McCarran Boulevard, looking east towards the intersection. The viewpoint was selected to illustrate the anticipated changes along McCarran Boulevard, including the wider pavement section, retaining walls, and modified access to the Sparks Mercantile Center.

**Key Viewpoint #12:** This photograph (Figure 3.4-7) was taken on Gregory Way looking westward to the project area. The viewpoint was selected to show the anticipated impacts to the neighborhood from removal of the homes that back up to the project roadways.



Source: Parsons 2011



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

**Key Viewpoint 5**  
Southbound Pyramid Way  
Looking to the South

Figure 3.4-5





Source: Parsons 2011



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

**Key Viewpoint 7**  
Eastbound McCarran Boulevard,  
Looking to the East

Figure 3.4-6



**Existing**



**Modified**

Source: Parsons 2011



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

**Key Viewpoint 12**  
Gregory Way  
Looking to the West

Figure 3.4-7

### ***Key Viewpoint #5***

**Orientation:** The orientation of the view is to the south along Pyramid Way. The view is from the perspective of the driver.

**Existing Visual Character/Quality:** The foreground elements include the roadway paving and the paved median. The neighborhood wall around the northeastern neighborhood quadrant can be seen on the left side (east) of Figure 3.4-5. The visual quality of the view is considered moderately low with moderately low vividness, intactness, and unity. Detracting elements include the wall-to-wall paving and the utility poles and lines. The vegetation in the backyards helps to soften these elements.

**Proposed Project Features:** The roadway paving on Pyramid Way would greatly increase. The number of southbound lanes would increase to four and the northbound lanes to three. The median would shift to the east to accommodate the new southbound lanes. The existing wall and residences along the east side of the roadway would be removed and landscaping would be installed. Landscaping in the median is also assumed. Utilities in the area would be undergrounded as part of the work.

**Changes to Visual Character:** From the perspective of the traveler on the roadway, the roadway would appear much wider, but the addition of a landscaped median and the landscaped trail along the east side would help to soften the additional hard surfaces created by the paving.

**Anticipated Viewer Response:** Because this view is consistent along long stretches of the roadway within the project area, it is anticipated that the view of the changes would last for several seconds to minutes depending on the amount of traffic. Viewer sensitivity would be expected to be moderate for commuters on the roadway, but residents who frequent the corridor could be anticipated to have a higher initial sensitivity due to their familiarity with the corridor. This sensitivity may decrease with the passage of time.

**Resulting Visual Impact:** For the southbound traveler on Pyramid Way, the changes to the visual environment that would be most noticeable would be the new median, especially if this is landscaped, and the widened pavement section/additional travel lanes. In terms of the visual quality in the view, the vividness may actually increase due to the anticipated new landscaping associated with the project. Overall changes to the visual quality are anticipated to be low, with moderately low vividness, intactness, and unity. The overall changes to the visual character are anticipated to be low as well. The resulting visual impact is anticipated to be moderately low, with low changes to the visual resources of the view and with a moderate viewer response (see Figure 3.4-5).

### ***Key Viewpoint #7***

**Orientation:** The photograph in Figure 3.4-6 is taken on eastbound McCarran Boulevard, west of the Pyramid Way/McCarran Boulevard intersection. The view is from the perspective of the traveler on McCarran Boulevard.

**Existing Visual Character/Quality:** The foreground elements include the roadway paving and the paved median. Driveway access from and landscaping associated with the Sparks Mercantile Center can be seen on the right side of the image. The visual quality of the view is considered moderately low, with moderately low vividness, intactness, and unity.



**Proposed Project Features:** The most prominent feature would be the widened pavement section at the intersection with the triple left-turn lanes. On the left, the existing slope would be replaced by a retaining wall with a landscaped area above the wall. The houses on the east side of the intersection would be removed, and the wall/landscaping would be visible as a mid-ground element. The driveway access to and from the Sparks Mercantile Center would be moved farther to the west.

**Changes to Visual Character:** From the perspective of the traveler on the roadway, the roadway would appear much wider, but the addition of a landscaped median would help to soften the additional hard surfaces created by the paving. The retaining wall allows for an opportunity to incorporate forms and textures to create a unique imagery or artwork.

**Anticipated Viewer Response:** The widening along McCarran Boulevard generally occurs at the intersection, so it would be seen for a duration of several seconds for those passing through with a green light to longer for those stopped at a red light. Viewer sensitivity would be expected to be moderate for commuters on the roadway, but residents who frequent the corridor could be anticipated to have a higher initial sensitivity due to their familiarity with the corridor. This sensitivity may decrease over time.

**Resulting Visual Impact:** For the eastbound traveler on McCarran Boulevard, the changes to the visual environment that would be most noticeable would be the new median, especially if this is landscaped, and the widened pavement section. In terms of the visual quality in the view, the vividness may increase due to the new landscaping associated with the project. Overall changes to the visual quality are anticipated to be low, with moderate vividness, and moderately low intactness and unity. The overall changes to the visual character are anticipated to be low as well. The resulting visual impact is anticipated to be moderately low, with low changes to the visual resources of the view and with a moderate viewer response. See Table 3.4-1 for the anticipated summary of visual impacts (see Figure 3.4-6).

### ***Key Viewpoint #12***

The changes to the existing views within the southeast quadrant of the intersection are anticipated to be similar to those shown in Key Viewpoint #12 (northwest quadrant) described below. In both locations, the removal of the row of houses that back onto Pyramid Way and McCarran Boulevard, and the placement of buffering visual buffer, using walls, planting, or a combination of these elements, would create a similar change to the visual environment of the neighborhood.

**Orientation:** The view shown in Figure 3.4-7 is from the perspective of the residents. The view is taken along Gregory Way looking to the west towards the proposed removed residences.

**Existing Visual Character/Quality:** The character of this view is one of a typical single-family residential development. In general, the streets are narrow with on-street parking, and the mature trees help to soften the yards of the homes. The overall visual quality is considered moderate, with moderate vividness, moderately high intactness, and moderate unity.

**Proposed Project Features:** From the neighborhood's perspective, removal of the first row of homes (those that back onto the Pyramid Way ROW) and the placement of landscape features would be a noticeable change to the existing view. In this case, the homes in the background would be replaced by landscaping, combined with soundwalls, berms, or decorative fencing.



**Changes to Visual Character:** For most of the homes in the neighborhoods, the changes to the visual character would be minor and would be noticed only at the entry or exit of the neighborhood. For homes that would now face towards the project, a landscaped area would be seen in place of the homes that currently fill the view. The elements to be included in this anticipated park-like setting would depend on final design; however, it is likely to include trees combined with groundplane treatments, such as grass, groundcovers, or gravelscapes, and a screening element, such as a berm, fence, or wall.

**Anticipated Viewer Response:** For residents that would face into the new landscape areas, the views would be substantially changed. Because the duration of the views would be long term, viewer sensitivity would be moderately high.

**Resulting Visual Impact:** For residents on streets perpendicular to the row of houses removed by the project, views would be anticipated to stay similar to the existing. The greatest changes would be either coming or going, where there would be views to the changes. For residents across from the removed houses, the view would substantially change. In place of homes and gardens, there would be a landscape buffer with a barrier element, such as a fence, wall, or landscape berm. It is feasible that these homes would also have some views into the improvements on Pyramid Way, depending on the locations of the barriers and landscape. Overall changes to the visual quality for this view are anticipated to be low, with a resulting moderate vividness and unity, and moderately high intactness. The overall changes to the visual character are anticipated to be low as well. The resulting visual impact is anticipated to be moderate and driven by the sensitivity of the viewer (see Figure 3.4-7). Preliminary design concepts are shown in Figure 3.4-8.

Table 3.4-1 provides an analysis summary of each key viewpoint for the anticipated change to the visual environment, the anticipated viewer response to that change, and the overall anticipated visual impact for each alternative.

<b>Table 3.4-1 Summary of Anticipated Visual Impacts by Key Viewpoint and Alternative</b>			
<b>Key Viewpoint</b>	<b>Anticipated Change to Visual Resource</b>	<b>Anticipated Viewer Response</b>	<b>Anticipated Visual Impact</b>
<b>Build Alternative</b>			
Key Viewpoint #5	Low	Moderate	Moderately Low
Key Viewpoint #7	Low	Moderate	Moderately Low
Key Viewpoint #12	Low	Moderately High	Moderate

### **3.4.5 Mitigation**

To address the potential adverse visual impacts to the project corridor area and community concerns over the addition of the project elements visually within the community, the following actions are recommended:



**North East Corner of Pyramid and McCarran**



**View Looking South From Homes on Nelson Way**

Source: Parsons 2011



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

**Preliminary  
Landscape Concepts**

Figure 3.4-8

- Use Context-Sensitive Solutions (CSS) to ensure a consistent approach to the design of the aesthetics along the roadways. The plan would supplement the mitigation measures described herein by developing more detailed architectural and landscape mitigation concepts. They would reflect comments by interested community groups, city staff members, regulatory agencies, and the Project Development Team.
- New noise barriers will be constructed as part of the improvements. In addition to limiting the sound that travels out from the corridor, they also block views into and out from the adjacent roadways.
- Areas for landscaping are limited in some locations, primarily along the west side of Pyramid Way. In these areas, a design goal can be to create greater visual interest in the wall itself through the inclusion of pilasters and other architectural elements, such as texture and color applications. If replanting is possible, such as on the east side of Pyramid Way where extensive area will be available, plantings can help soften the presence of the wall and reduce the “canyon effect” where there are walls on both sides of the highway.

The preferable option is to allow enough setback space between the edge of shoulder and the wall to allow for trees and other plantings in front of the wall. If not enough room exists to allow for this, planting types and locations can be adjusted. Regardless of plantings, added articulation and interest in the wall would help increase the visual quality of the project area.

- The requirements for stormwater treatment may conflict with the requirements for landscaping. For corridors like Pyramid Way and McCarran Boulevard, where paving dominates the landscape, the limited remaining areas must meet landscape as well as stormwater treatment requirements. In designing the water quality treatment BMPs, the location and appearance of the treatment facilities must be considered. The design and placement of any BMPs for the proposed project shall be designed and reviewed to work with the projects aesthetics and landscape designs.
- RTC will continue to work with the community during final design to develop CSS for the project improvements through a formalized structure that allows for community input.
- RTC will conduct public and neighborhood meetings during design development to allow for community input.
- Beginning with preliminary design and continuing through final design and construction, construction plans will be developed that apply architectural detailing to the privacy walls and noise barriers, including caps that provide shadow lines, as well as textures, colors, and patterns. These architectural details will be developed through the CSS process.
- Beginning with preliminary design and continuing through final design and construction, drainage and water quality elements will be used, where required, that maximize the allowable landscape.
- Any maintenance access drives will be located in unobtrusive areas away from local streets. Such drives must consist of inert materials or herbaceous groundcover that is visually compatible with the surrounding landscape.
- Rock slope protection will be designed to consist of aesthetically pleasing whole material with a variety of sizes.

### **3.5 Cultural Resources**

FHWA's regulations implementing NEPA set forth as national policy the concept that, to the fullest extent possible, compliance with all applicable environmental requirements should be reflected in a project's EIS. Section 106 of the National Historic Preservation Act (NHPA), as amended, 16 U.S.C. 470f, requires federal agencies to consider the effects of their actions on properties eligible for the National Register of Historic Places (NRHP).

#### **3.5.1 Native American Consultation**

Three tribes were consulted by FHWA pursuant to 36 CFR 800.8, which correlates efforts of the NHPA with NEPA. Those tribes consulted were the Pyramid Lake Paiute Tribe, the Reno-Sparks Indian Colony (RSIC), and the Washoe Tribe of Nevada and California. Government-to-government consultation was initiated by letter from FHWA to the tribal chair on September 13 and 14, 2011. These letters were copied to their respective tribal cultural designees. Follow-up phone calls, e-mails, and meetings took place between the NDOT Native American Consultation Coordinator and the tribal cultural designees during October and November 2011.

During the consultation process, no environmental or social justice issues relative to the proposed improvements were voiced by the tribal representatives. The tribal representatives posited that, due to the level of previous development in the area of potential effects (APE), there does not appear to be much potential for disturbing intact surficial cultural remains; however, all three tribal representatives stated that there is potential for disturbance of subsurface cultural and human remains. Should such an inadvertent discovery happen during construction of the improvements, each of the tribes would be notified and consultation would begin again regarding disposition of the remains pursuant to 36 CFR .13(b) and Nevada Revised Statutes (NRS) 383. Additionally, regarding the built environment, the representative from RSIC expressed a desire to protect several historic homes in the area, particularly the Lagomarsino House. Should any direct impact to historic homes appear likely from the proposed project, additional consultation would take place with the RSIC representative.

#### **3.5.2 Archaeological Resources**

##### **Area of Potential Effects**

The APE for archaeological resources is the same as the project's proposed ROW. The ROW along McCarran Boulevard varies in width; however, it is approximately 3,800 feet long by 85 feet wide. Along Pyramid Way, the ROW is approximately 4,480 feet long by 85 feet wide, though north of Queen Way on Pyramid Way, it is approximately 600 feet wide. In total, the ROW consists of approximately 39 acres.

Areas outside of the ROW have extensive urban development, both commercial and private, and as a consequence, these areas were not investigated for archaeological resources. The legal description of the project is Township 20 North/Range 20 East/Sections 32 and 33. The project is located on the Reno, Nevada 7.5-Minute United States Geological Survey (USGS) Quadrangle (1967) and partially on the extreme western portion of the Vista, Nevada 7.5-Minute USGS Quadrangle (1975).

The project ROW was investigated for archaeological resources using an intensive pedestrian survey. Areas outside of the ROW were not investigated because these areas have been severely impacted as a result of urban development.



A segment of a linear resource, the previously determined NRHP-eligible Orr Ditch (26WA5352), was identified within the project area. The segment of the Orr Ditch located to the east of Pyramid Way is a noncontributing segment (i.e., ineligible) because later alterations made to the water conveyance system at that location substantially diminished its integrity. The segment of the Orr Ditch located to the west of Pyramid Way was identified as a contributor to the NRHP-eligible Orr Ditch. FHWA submitted a request for the State Historic Preservation Officer's (SHPO) concurrence in its eligibility determination on August 17, 2012. SHPO concurred with FHWA in a letter dated September 14, 2012 (see Appendix B).

### **3.5.3 Impacts**

East of Pyramid Way, the Orr Ditch would be extended with the widening of Pyramid Way, and the improvements would disturb 0.05-acre. As discussed in Section 3.5.2, the eastern segment (26WA5352) of the Orr Ditch no longer retains the essential physical features that enable it to adequately convey its historic identity; therefore, this 420-foot-long by 20-foot-wide segment of the historic property located within the APE has been determined to be a noncontributing element of the larger National Register property. SHPO concurred with this determination on September 14, 2012 (see Appendix B). There would be no impacts to the Orr Ditch west of Pyramid Way.

### **3.5.4 Historic Architecture Inventory**

#### **Area of Potential Effects**

In consultation with the SHPO, FHWA determined that an appropriate APE for historic buildings/structures would include parcels immediately adjacent to Pyramid Way and McCarran Boulevard, parcels bordering vacant lots immediately adjacent to Pyramid Way and McCarran Boulevard, and parcels that could be visually impacted by the proposed improvements within the project limits (see Figure 3.5-1). The APE is approximately 2.5 miles long, beginning at Wedekind Road and ending at 4<sup>th</sup> Street on McCarran Boulevard and beginning at Queen Way and ending at Richardson Way on Pyramid Way. A meeting between Carrie Chasteen and Andrea Engelman of Parsons, Elizabeth Dickey of NDOT, and Rebecca Ossa of the SHPO occurred on March 23, 2009. The purpose of the meeting was to initiate SHPO consultation by introducing SHPO staff to the project; describe potential project alternatives; establish an APE that would take into account potential direct, indirect, and cumulative effects; and discuss potential adverse effects of the project (Parsons, 2012c).

#### ***Acres Surveyed***

This survey encompasses 346 parcels and 135.227 acres.

#### **Historic Structures Inventory**

Three hundred forty-six (346) parcels are included in the project's APE. Of those 346 parcels, 196 contain buildings, structures, or objects that were built during or before 1969. As a result of this study, 195 Historic Resources Inventory Forms (HRIFs) were completed in 2011 for the 196 properties, and they were evaluated for historic significance. One property, the Lagomarsino House located at 2965 Pyramid Way, was previously determined eligible for the NRHP as part of an unrelated project, and the previous HRIF was included in this study.

In addition to the NRHP-eligible Lagomarsino House, this study determined that one additional property in the APE, the Solorio House at 2975 Pyramid Way, was eligible for the NRHP under Criteria A and C because it is one of the few remaining buildings in Sparks associated with early 20<sup>th</sup> century agriculture, an economic activity that spurred early development in Sparks and the surrounding region. The building also appears eligible under Criterion C because it possesses the distinctive character-defining features embodied within the architectural style and design of a bungalow.

Furthermore, in consultation with SHPO, FHWA will treat Green Brae Terrace Subdivision (Map ID# 1-80 on Figure 3.5-1) as eligible for the NRHP under Criteria A and C at the local level of significance for its association with the post-World War II expansion of housing tract development in Sparks. All of the homes within Green Brae Terrace Subdivision will be treated as contributing elements to the district.

Criteria for evaluation are described below:

*The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:*

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or*
- B. That are associated with the lives of significant persons in or past; or*
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
- D. That have yielded or may be likely to yield, information important in history or prehistory (36 CFR Part 60.4 Criteria for Evaluation and National Park Service. "How to Apply the National Register Criteria for Evaluation." 1995).*

Table 3.5-1 lists the NRHP-eligible architectural properties within the APE. Table 2 in the *Historic Architectural Survey Report* (Parsons, 2012c) lists all of the properties constructed during or before 1969 that are located within the APE.

<b>Table 3.5-1 NRHP-Eligible Properties within the APE</b>					
<b>Map ID #</b>	<b>SHPO Resource ID #</b>	<b>Address</b>	<b>APN</b>	<b>Year Built</b>	<b>NHRP Eligibility Status</b>
270	B8165	2965 Pyramid Way (Pierson/Lagomarsino)	027-132-09	1924	Individually Eligible; Criterion C
267	B12132	2975 Pyramid Way (Solorio)	027-132-12	1930	Individually Eligible; Criteria A & C
1-80	D112	SE quadrant of Pyramid- McCarran Intersection Green Brae Terrace District	Varies	1948-63	Unevaluated, treated as eligible as District; Criteria A & C



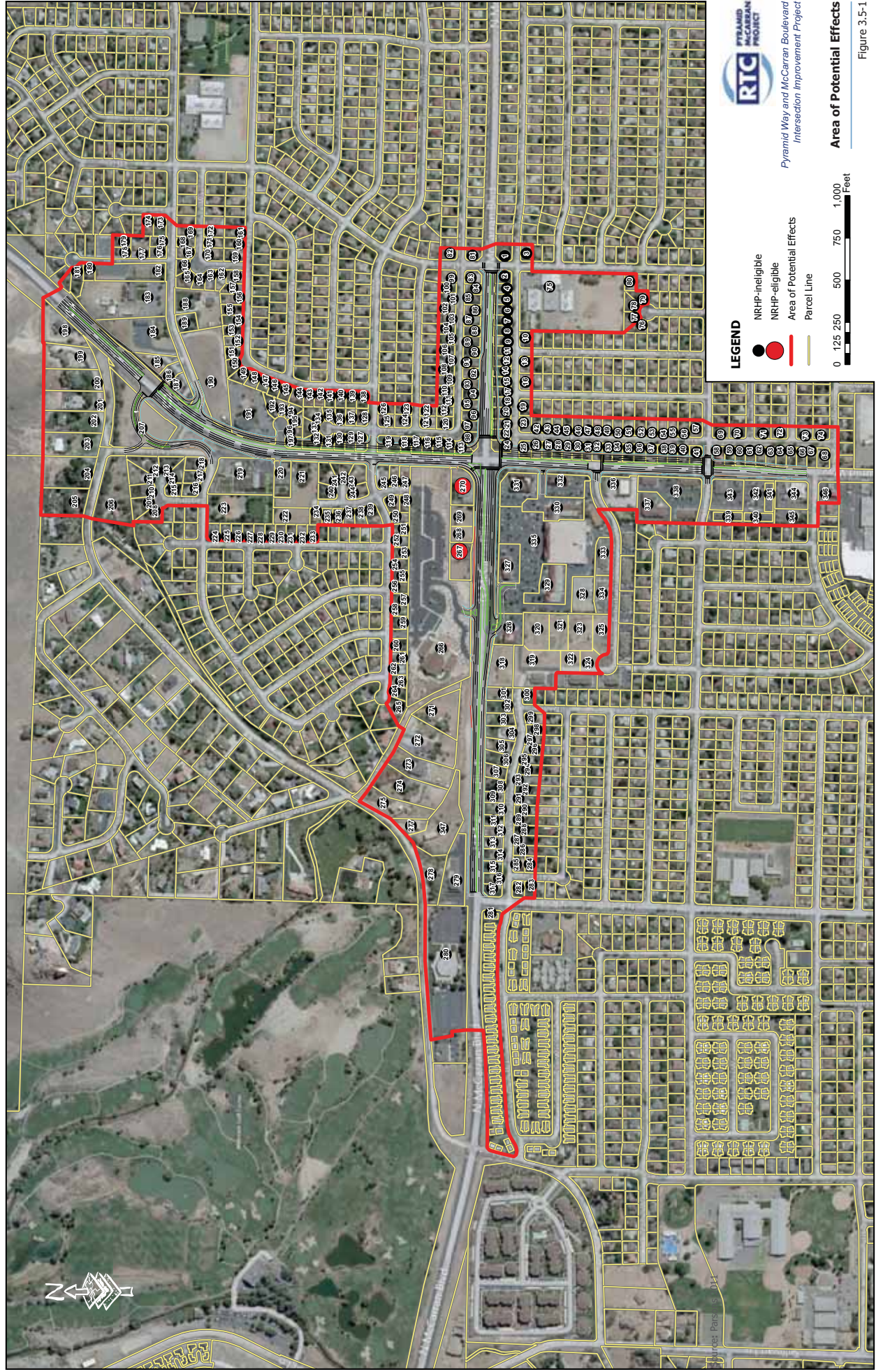


Figure 3.5-1

This page intentionally left blank.



### **3.5.5 Historic Architecture Impacts**

#### **Historic Architecture**

This section discusses the effects that the proposed project would have on the two NRHP-eligible properties located within the APE, the Clarence Grant Pierson/Lagomarsino House at 2965 Pyramid Way, the Martin Solorio House at 2975 Pyramid Way, and the Green Brae Terrace District located in the southwest quadrant of the Pyramid Way and McCarran Boulevard intersection and bounded roughly by Pyramid Way, Gault Way, Probasco Way/1<sup>st</sup> Street and H Street. SHPO recommends and FHWA agrees that the Green Brae Terrace subdivision will be treated as an NRHP-eligible district. Eighty (80) houses within the Green Brae Terrace District are within the project's APE. Seventy-five (75) of these houses were built during or prior to 1969. These 75 houses were evaluated for the NRHP and FHWA determined they were not individually eligible for the NRHP. In consultation with SHPO, FHWA is treating the houses as contributing elements to the Green Brae Terrace District. The anticipated effects of the project on the Clarence Grant Pierson/Lagomarsino House, the Solorio House, and the Green Brae Terrace District are evaluated here, based on the preliminary engineering plans for the Preferred Alternative.

#### ***Effects on 2965 and 2975 Pyramid Way, Sparks***

The proposed intersection improvement would not involve any alterations within the actual physical parcel boundary of either of the two historic properties. The proposed undertaking would consist solely of making roadway and other improvements, including the construction of 5-foot sidewalks, standard bicycle lanes, landscaping, and stormwater best management facilities within the existing roadway intersection corridor and existing state ROW.

Based on the current roadway conditions for Pyramid Way and McCarran Boulevard, the proposed project improvements would not be inconsistent or out of character with the existing project setting, which consists of the intersection of two state routes. The proposed undertaking would not noticeably alter the general project area nor the context or feel of either of these two NRHP-eligible properties.

The proposed undertaking has the potential to introduce visual, atmospheric, and audible elements that could conceivably diminish the integrity of the setting of these two historic properties. Air quality analysis conducted for the project indicates that, if implemented, the project would not violate federal, state, or local air standards. Results of noise modeling conducted for the project likewise revealed noise levels would not increase over existing levels at either historic property. There would be no direct impacts from the proposed work associated with this project, though there would be indirect impacts related to increased noise and dust during construction. Slight visual and setting changes to the area would be caused, but these would be considered minor and would not alter the significance of the two properties.

Therefore, the proposed changes are not considered adverse because they do not meet the criteria as defined in 36 CFR 800.5(a)(1). In short, based on the location, current setback, setting, and functional land use category type of the two properties (i.e., residential), together with roadway compatibility features that have been incorporated into the project design, the undertaking would not alter, directly or indirectly, any of the characteristics of either historic property that would

qualify it for inclusion in, or eligibility for, the NRHP, or in any other manner diminish or otherwise compromise their integrity.

***Effects on Green Brae Terrace District, Sparks***

The project would involve potential acquisition of up to 40 properties located in the southeast quadrant formed by the intersection of Pyramid Way and McCarran Boulevard. This quadrant primarily consists of housing originally constructed as part of the Green Brae Terrace subdivision.

Overall, the district would retain a high concentration of residential properties in their original setting, and as a result, Green Brae Terrace would continue to convey a sense of place and time. All of the character-defining features of the district would remain intact. The planned construction of a landscaped buffer and privacy walls on the western and northern edge of the Green Brae Terrace District within the project limits would generally replace existing, irregular property walls and fences that bound and shield the homes and neighborhood, thereby redefining the western and northern edges of the district with aesthetically consistent landscaping and walls.

The project would only directly affect a small percentage of the preliminarily defined historic district (a field survey to evaluate the condition/integrity of the entire group of approximately 2,750 houses built as part of the Green Brae Terrace subdivision was not conducted).

Because the core of the district, including the highest concentration of the earliest houses built in the nascent years of the subdivision's development, is situated to the south and east of the proposed transportation improvements, the district would continue to have the ability to convey its significance under NRHP Criteria A and C for its association with community development and the emergence of postwar housing in Sparks with its mid-20<sup>th</sup> century ranch-style homes. Those large areas outside of the direct project area east of Pyramid Way and south of McCarran Boulevard would continue to provide a strong sense of place and time for the district's period of significance (1948-1963).

Of the 40 houses within Green Brae Terrace that would need to be acquired for ROW, the district would continue to be geographically united. Most of the 2,750 houses estimated to have been built as part of the Green Brae Terrace tract development in the 15 years from 1948-1963 would remain intact.

For those properties immediately adjacent to the houses that would be acquired, the residences and grounds would be protected during construction, though some tree branch and root trimming or removal may be necessary. It is not anticipated that temporary construction easements would be required as part of the project. In addition to the full property acquisitions, other project-related features would result in changes to the visual character and setting of the Pyramid Way and McCarran Boulevard intersection that borders the district. These include the proposed 5-foot-wide sidewalks and a landscaped buffer/parkway strip, bicycle lanes, and 6-foot privacy walls, all of which are context-sensitive components of the overall improvements planned as part of the intersection project to benefit the surrounding community.

Within the district, existing street intersections at Pyramid Way and Tyler Way and Pyramid Way and York Way would be maintained at their current locations, with minor adjustments to

accommodate the added lanes on Pyramid Way. The existing intersection at Pyramid Way and Gault Way would be closed off at Nelson Way, thereby removing northbound cut-through traffic from Pyramid Way to Gault Way that presently travels through the district to avoid the congested intersection. Access to the properties east of Pyramid Way on Gault Way would be provided via 4<sup>th</sup> Street.

The views of and from the district would be changed, but the changes would not be substantial because most residents would continue to have similar views of houses and other urban features with the Preferred Alternative. Some residents would have views of the new privacy walls and landscaped buffer/parkway strip between the sidewalks and the traveled way, in addition to houses.

The district's overall integrity of feeling and association would remain intact, and the setting would still possess the essential physical features of the district as a whole. Design, materials, and workmanship would be little impacted. For these reasons, FHWA has determined that the Preferred Alternative would result in no adverse effect to the district; SHPO concurrence with this determination will be requested after public review and comment of the Draft EIS. FHWA has also preliminarily determined that the proposed project will result in a Section 4(f) *de minimis* use of the district (see Chapter 4).

### **3.5.6 Mitigation**

An agreement document among FHWA, SHPO, NDOT, and RTC will be prepared to stipulate additional documentation for the district. As discussed in Section 3.5.5, no adverse effect is anticipated to occur to historic properties identified in the APE under the Preferred Alternative; however, the following activities have been proposed to document resources in the APE for the proposed undertaking:

- Prepare a pamphlet, website, interpretive panel, or other educational material focusing on the development and evolution of Green Brae Terrace within the context of local history and architecture of the historic district.
- Conduct an oral interview of a long-time Green Brae Terrace resident.
- Add aesthetic treatments, such as landscaping and privacy walls.
- Retention of as many mature trees as possible.

## **3.6 Hazardous Waste and Materials**

### **3.6.1 Study Methodology**

A baseline hazardous waste/material survey was conducted to identify the location of known or suspected sites potentially affecting development of transportation improvements. If known or suspected waste sites are identified, the locations are mapped by their relationship to the project under consideration. If a known or suspected hazardous waste site is affected by a proposed project alternative, information about the site; the potential involvement, impacts, and public health concerns of the affected alternative(s); and the potential mitigation measures to eliminate or minimize impacts or public health concerns are evaluated.

A Phase 1 Environmental Site Assessment (ESA) is also used to establish baseline conditions at the project site and identify “recognized environmental conditions,” particularly where real estate acquisitions may be involved. The American Society for Testing and Materials (ASTM) Standard Practice E 1527-05 (Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process) is an accepted method for conducting Phase 1 ESAs. “Recognized environmental conditions” are defined in the ASTM Standard Practice E 1527-05 as “the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.” The term includes hazardous substances or petroleum products even under conditions in compliance with applicable laws. The term is not intended to include *de minimis* conditions that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. The ASTM standard also provides guidance for including other materials that are not included in the definition of hazardous substances under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). These materials include, but are not limited to, asbestos-containing materials (ACM) and lead-based paint (LBP). In the State of Nevada, a Phase 1 ESA may only be performed by a Certified Environmental Manager (CEM).

Per the ASTM Standard, a Phase 1 ESA is presumed valid within 180 days of acquisition of real property. A Phase 1 ESA will then be conducted just prior to the acquisition of real property required for this project. Based on currently available information, it is anticipated that a hazardous materials survey of the properties to be acquired will also be conducted to confirm the presence of suspect hazardous substances and others not under the purview of CERCLA.

Track Info Services, LLC (Track Info), an environmental database search company, was retained to search applicable regulatory agency lists and standard environmental record sources to identify properties within and near the proposed project impact area that may have adverse environmental conditions relating to the presence of hazardous wastes or materials. Historical topographic maps, aerial photographs, and fire insurance maps (prepared by the Sanborn Fire Insurance Company) covering the project site were also requested from Track Info as basis for additional analysis with regards to the presence of hazardous substances.

### **3.6.2 Regulatory Standards/Criteria**

Hazardous wastes are regulated by the federal government through the Resource Conservation and Recovery Act of 1976 (RCRA) and amendments, and CERCLA and amendments, as well as implementing federal regulations in Title 40 of the CFR. CERCLA permits the user of a Phase 1 ESA one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability.

In addition, the State of Nevada regulates hazardous materials and wastes through sections of the NRS and Nevada Administrative Code, Chapter 459.

### **3.6.3 Existing Conditions**

Sites with known or suspected hazardous waste or material contamination were identified by an environmental database search and evaluated to assess potential project impacts. Any such sites



that are known or suspected to be contaminated with hazardous wastes because of historical use, storage, or release of hazardous materials at the site were assessed.

## **Environmental Database Search Report**

### ***Hazardous Material Sites within the Project Boundaries***

The environmental database search identified two sites that are listed in Federal and state environmental databases as being located within the proposed project boundaries. These are:

- VIP Cleaners, 2885 McCarran Boulevard – VIP Cleaners is listed in the RCRA Generators and the RCRA No Longer Report (NLR) databases. The database indicates that this facility was a “conditionally exempt generator” of hazardous wastes, but it is no longer generating hazardous waste in quantities that require reporting. Hazardous wastes previously generated at this site consisted of spent halogenated solvents associated with the dry cleaning process. There were no violations reported for this site.
- Exxon Gas Station, Corner of Pyramid Way and Tyler Way – This gas station is listed in the Emergency Response Notification System (ERNS) database due to a spill of unleaded gasoline from a leaking pump nozzle that was reported to the National Response Center in January 1998. The volume of the spill is unknown, and no corrective actions were required. There were no violations reported for this site.

### ***Hazardous Materials Sites near the Project***

Hazardous material sites near the project were identified from the environmental database search report using search distance criteria that meets or exceeds the requirements of ASTM Standard 1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. The environmental database search report identified the following:

- Four registered small quantity “conditionally exempt generators” of hazardous wastes with no violations (search criteria: within 0.25-mile of the project boundaries).
- Two former hazardous waste generators (no longer reporting) with no violations (search criteria: within 0.125-mile of the project boundaries).
- One closed ERNS site (leaking heating oil tank discovered during tank removal) (search criteria: within 0.125-mile of the project boundaries).
- Twenty-two (22) State sites (Corrective Action Cases) of which all 22 are closed (search criteria: within 1-mile of the project boundaries).
- Four closed leaking underground storage tank sites (search criteria: within 0.5-mile of the project boundaries).
- One active and four closed (permanently not in use) underground storage tank sites with no violations (search criteria: within 0.25-mile of the project boundaries).

Seven of the eight identified active hazardous material sites within 1-mile of the project boundaries are identified in Figure 3.6-1. The State site under investigation described above, which is located at 1629 G Street, is not within coverage of the aerial photograph.

***Review of Historical Topographic Maps and Historical Aerial Photographs***

Historical topographic maps of the project site are available for the years 1951, 1967, 1974, and 1982. Historical aerial photographs of the project site are available for the years 1946, 1956, 1966, 1980, 1994, and 2006.

The 1946 aerial photograph is consistent with what is shown in the 1951 topographic map; however, the aerial photograph shows that the project site and the surrounding area were in agricultural use. The 1956 aerial photograph is similar to the 1946 photograph, except there are additional structures east of Pyramid Way that look like large warehouses.



**Figure 3.6-1 Active Hazardous Material Sites within  
the Proposed Project Boundaries**

On the 1951 topographic map, Pyramid Way is shown as a primary highway, while McCarran Boulevard did not exist at the time, except for a trail along the current alignment of McCarran Boulevard west of Pyramid Way. Pyramid Way is shown as a north-south highway that connects to Highway 33 at its northern terminus. The KOLO radio towers and two buildings are shown as the closest structures to the project site. The one building in the southwest quadrant of the current intersection of McCarran Boulevard and Pyramid Way may have been associated with the KOLO radio towers. The other building is located on Pyramid Way, south of its intersection with McCarran Boulevard. Large-scale residential or commercial development around the project site was nonexistent. The 1966 aerial photograph shows large-scale housing developments in the

northeast, southeast, and southwest areas of the project site, with the exception of the area occupied by the KOLO radio towers. The 1967 topographic map reflects such development except on the east side of Pyramid Way, which does not show the housing developments. On the topographic map, Pyramid Way is identified as Highway 32. Both the 1966 aerial photograph and the 1967 topographic map show the northbound connector from Pyramid Way to Highway 33 and a large structure that is at the northwest corner of Pyramid Way and Tyler Way. The aerial photograph shows a large white roof that is consistent with the canopy of a gasoline station.

The 1974 topographic map shows additional housing and related development (e.g., area schools, parks, libraries, and other community facilities). The 1980 and 1994 aerial photographs and the 1982 topographic map are consistent, showing additional development in the general project area, but still not showing any development on the KOLO radio towers site. The 2006 aerial photograph shows additional in-fill development, including what looks like a large retail establishment at the KOLO radio towers site. The aerial photographs from 1966 to 2006 show an increasing progression in the development of McCarran Boulevard, especially on the west side of Pyramid Way.

The progression of development in the area as evidenced in the historical topographic maps and aerial photography is consistent with the database report for the types of facilities that use hazardous materials and/or generate hazardous waste in the general area of the project site. These facilities include dry cleaners, gas stations, schools, shopping centers, and retail establishments that support the residents in the area. There do not seem to be any industrial facilities in the general area.

This project would require the removal of houses along the east side of Pyramid Way and along the north and south sides of McCarran Boulevard east of Pyramid Way. Based on the historical topographic maps and aerial photographs, these houses were constructed before or during 1966; therefore, it must be assumed that ACMs and LBP are present in the homes to be demolished. ACMs may be found in building materials either formulated onsite or manufactured. Newly manufactured building materials imported under enacted trade agreements may contain ACMs. Other hazardous materials that could be present include polychlorinated biphenyls (PCBs) found in fluorescent light ballasts, capacitors, and transformers; mercury in old light switches; and radioactive sources in old smoke detectors.

### **3.6.4 Impacts**

#### **Construction Impacts**

Hazardous wastes encountered during construction of the proposed project would result in unavoidable adverse impacts if the wastes are not managed properly and/or releases to the environment occur without appropriate cleanup. If not handled, managed, and disposed properly prior to construction, hazardous wastes and hazardous substances identified previously, including non-CERCLA regulated materials such as ACMs and LBP, could result in delay in construction and create worker and public exposure concerns (i.e., noncompliance with applicable federal and state environmental and safety regulations); however, existing federal and state laws and regulations provide stringent control over hazardous waste management, as well as prevention and response to spills and releases. Compliance with all existing federal, state, and local



(county/city) hazardous waste laws and regulations would be required during construction of the proposed project.

The following sections evaluate potential project construction impacts related to the hazardous waste and material sites previously identified.

### ***No Build Alternative***

The No Build Alternative would leave existing conditions as they are; therefore, no construction impacts would occur. No acquisition of properties would occur and any ongoing investigations/remediation would continue.

### ***Build Alternative***

Under the Build Alternative, houses along the east side of Pyramid Way and along the north and south sides of McCarran Boulevard would be acquired as part of the proposed intersection improvements. Prior to the acquisition of real property, a Phase 1 ESA could be conducted to identify the presence of hazardous materials. Hazardous materials surveys could also be conducted to confirm their presence.

These houses would be demolished, potentially resulting in the generation of hazardous or regulated demolition debris. If not handled and disposed of properly, related debris could impact the construction site and create worker and public exposure concerns, and cause schedule and cost impacts.

None of the hazardous material sites within the project site, as identified in the environmental database search report, would be acquired; therefore, there would be no construction impacts from these hazardous material sites.

## **Operational Impacts**

Upon completion of the project, traffic operations from the proposed project would not normally result in the generation of hazardous wastes that would impact operation of the roadway. On occasion, release of hazardous materials may occur on the project site as a result of vehicular incidents, particularly those involving vehicles transporting hazardous materials. These releases would be expected to be cleaned up as part of the response to each vehicular incident by local emergency personnel.

### **3.6.5 Mitigation**

#### **Mitigation of Construction Impacts**

To minimize construction impacts from the proposed project, the construction contractor will have in place an Environmental Protection Plan (EPP) to include the management of hazardous materials and hazardous wastes in accordance with applicable local, state, and federal regulations. Prior to demolition of any houses, a Phase 1 ESA and a hazardous materials survey of those houses will be conducted to identify/confirm the locations and quantities of any hazardous materials. The Phase 1 ESA will be performed by a Nevada CEM. The survey results will be used to develop the portions of the EPP relating to hazardous materials/hazardous waste management, transport, and disposal. Hazardous wastes generated at the project site will need to



be analyzed in accordance with applicable U.S. Environmental Protection Agency (EPA) methods prior to disposal to determine disposal options.

The project proponent will need to apply for an EPA generator identification number to be used for tracking any hazardous wastes generated and disposed of from the project site. Transporters and disposal sites will be required to have valid permits held by the owners/operators, expected to be already in place, for these transport services and disposal facilities.

### **Mitigation of Operational Impacts**

No specific mitigation measures would be required for the proposed Build Alternative. Local, state, and federal programs for the management of hazardous materials/hazardous wastes and emergency response under RCRA and CERCLA should be adequate to address any operational impacts if they occur. In addition, Department of Transportation regulations for the transport of hazardous materials provide additional requirements to preclude the accidental release of hazardous materials on roadways.

## **3.7 Water Resources**

This section includes a range of topics related to water resources, including the regulatory setting, receiving water bodies, and water quality. Surface water resources are important for fish and wildlife habitat, urban and agricultural water supply, and conveying floodwaters (Parsons, 2011f). Additional information related to hydrology and floodplains, such as stream crossings, onsite and offsite drainage, and storm water systems, is included in Section 3.8, Floodplains (see also Parsons, 2011c).

### **3.7.1 Regulatory Setting**

#### **Federal**

##### ***National Environmental Policy Act (42 U.S.C. 4321 et seq.)***

NEPA requires the consideration of potential environmental effects, including potential effects on hydrology and water resources, in the evaluation of any proposed federal action. NEPA also obligates federal agencies to consider the environmental consequences and costs in their projects and programs as part of the planning process. General NEPA procedures are set forth in the CEQ regulations and 23 CFR 771.

##### ***Clean Water Act (33 U.S.C. 1251 et seq.)***

The Clean Water Act (CWA) is the primary federal law protecting water quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The primary principle is that any pollutant discharge into the nation's waters is prohibited unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

#### **Nevada Regulations**

##### ***General Permit for Storm Water Discharges Associated with Construction Activity***

Under General Permit No. NVR 100000, all NDOT projects disturbing 1-acre or more are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activity by submitting a Notice of Intent (NOI) and the filing fee with the Nevada

Division of Environmental Protection (NDEP) within 2 days prior to the start of construction (NDOT, 2006). Prior to filing an NOI, the Storm Water Pollution Prevention Plan (SWPPP) must also be completed by the contractor and made available at the project site for review.

***National Pollutant Discharge Elimination System (NPDES) Permit for Discharges from NDOT Municipal Separate Storm Sewer Systems (NV0023329)***

NDOT's Statewide Municipal Separate Storm Sewer System (MS4) permit authorizes NDOT to discharge stormwater and certain nonstormwater runoff to waters of the United States. This permit includes conditions that are intended to protect the quality of receiving waters (NDOT, 2006).

***Temporary Work in Waterways/Discharge Permit***

NDEP requires a Temporary Working in Waterways/Discharge Permit for work within or immediately adjacent to live streams or water bodies. This permit is issued for routine maintenance and short-term construction projects. For NDOT projects, the contractor is responsible for obtaining this permit, and the NDOT Water Quality Specialist provides oversight of the process, as needed (NDOT, 2006).

**3.7.2 Affected Environment**

The proposed project is within the Northwest Truckee Meadows Planning Area. The project corridor is located within a fully built urbanized environment with an area predominated by impervious surface. The corridor runs through an area characterized by single-family residences in the northwest, northeast, and southeast quadrants, along with commercial use facilities in the southwest quadrant. The proposed project lies within the Truckee River Basin and the Truckee Meadows hydrographic area (Parsons, 2011f). Truckee Meadows is a bowl-shaped valley, approximately 10 miles wide and 16 miles long, containing the cities of Reno and Sparks.

The average rainfall in Nevada varies regionally. According to NDOT's Construction Site BMP Manual (NDOT, 2006a), the project area is located within Area 2, which is affected by winter storms and snowmelt runoff. Annually, the project area, on average, receives approximately 7.8 inches of rainfall, with most of the precipitation occurring during the winter months. Winters in the project area are characterized as cold, with an average temperature range in January from 23.5 to 47.3 degrees Fahrenheit (°F). Summer temperatures in July are warm and average from 53.6 to 91.7 °F.

**Hydrographic Area**

Within the Pyramid Way and McCarran Boulevard project limits, offsite drainage flows from north to south. Flow is conveyed south along Pyramid Way and east along McCarran Boulevard to a trunk line in McCarran Boulevard. The trunk line in McCarran Boulevard is the primary outfall for drainage in the Pyramid Way/McCarran Boulevard intersection improvement area. The project area lies within the North Truckee Drain subbasin, which is a major drainage facility for Sparks and the Spanish Springs area. The McCarran Boulevard trunk line connects to the North Truckee Drain at Sparks Boulevard (Parsons, 2011f), which ultimately conveys flows to the Truckee River at the Lockwood Bridge (NDEP, 1994). The Orr Ditch, which runs west to east, crosses McCarran Boulevard just east of Sullivan Lane, and then runs around the Wildcreek Golf Course before crossing the project site north of the Queen Way intersection via a 12-foot by

4-foot reinforced concrete box (RCB). The Orr Ditch runs only at specific seasons of the year and conveys irrigation water from the Truckee River.

The Truckee River Basin includes Lake Tahoe and the Lake Tahoe Basin, the 105-mile-long Truckee River, many lesser upstream storage lakes and reservoirs, various tributaries, and the Truckee River's terminus, Pyramid Lake. The Truckee River system consists of five major river reaches. The reach identified as NV06-TR-05\_00 (from Lockwood to Derby Dam) (NDEP, 2009), includes the 15-mile reach through the Truckee Meadows hydrographic region. Several tributaries enter the Truckee River along this reach, the most important being Steamboat Creek, which is outside of the project area (see Figure 3.7-1).

### **3.7.3 Existing Water Quality**

NDEP manages a statewide monitoring program to evaluate the chemical and physical quality of the State's water resources. Of particular interest is site T9, designated as the North Truckee Drain (NDEP, 2011). This location is of special interest because it is downstream from the North Truckee Drain, and NDEP has also established this site as the total maximum daily load (TMDL) compliance point for the Truckee Meadows hydrographic region.

The CWA requires states to identify water bodies that are considered impaired, which means the water body does not meet water quality standards. On February 17, 2009, NDEP approved the State's Final 2006 303(d) Impaired Waters List, which identifies CWA Section 303(d) water bodies that are not meeting water quality standards.

The Truckee River from East McCarran Boulevard to Lockwood is not listed as impaired on Nevada's Final 2006 303(d) Impaired Waters List.

### **3.7.4 Impacts**

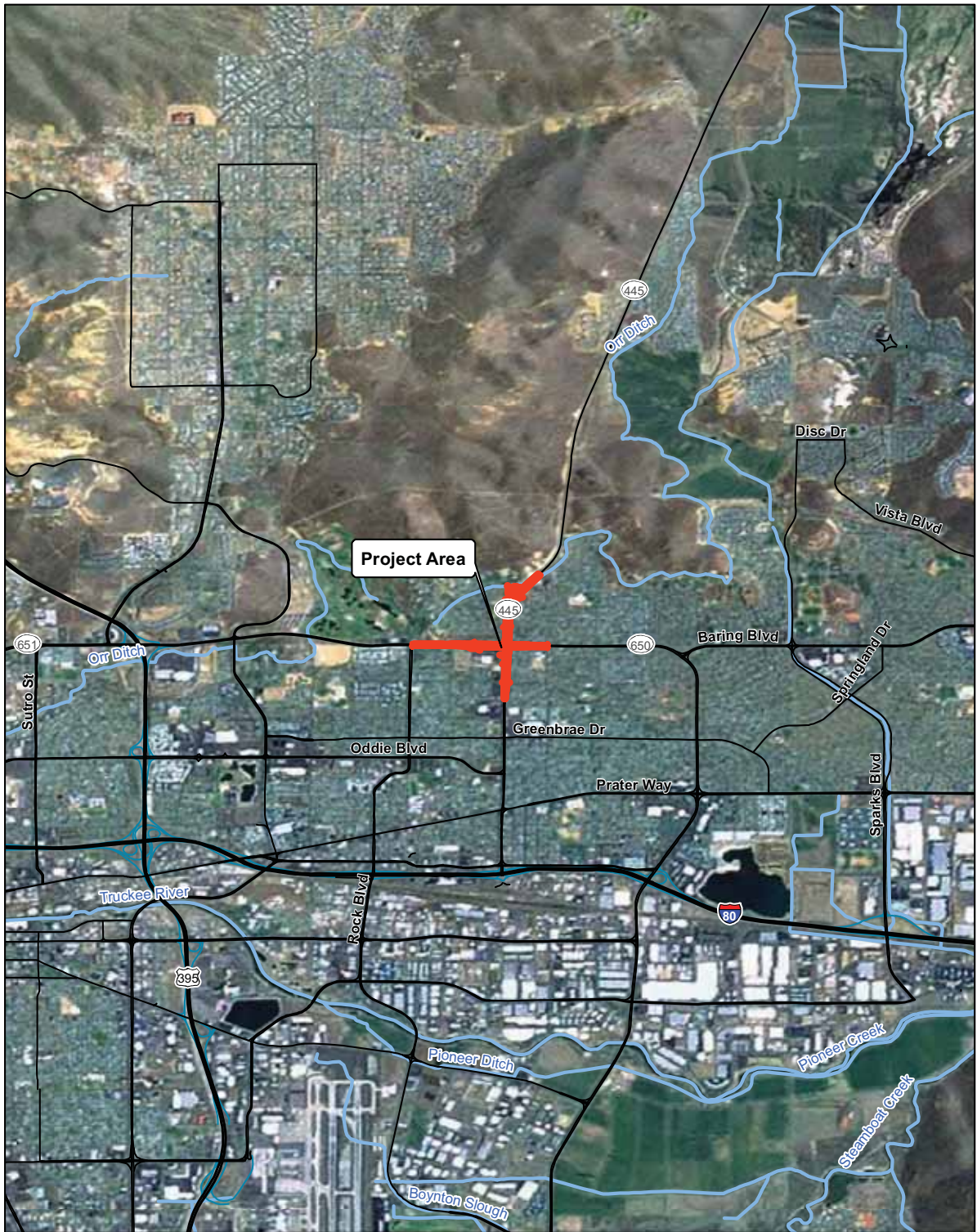
Construction and operation of the proposed project has the potential to impact water quality. BMPs would be evaluated and implemented to address potential impacts during the planning and design, construction, and operation phases.

Potential pollutant sources associated with the construction phase of the proposed project include construction activities and materials anticipated at the project site. Table 3.7-1 displays potential pollutant sources, along with their associated pollutant, typical for transportation infrastructure construction sites like the Pyramid Way and McCarran Boulevard Intersection Improvement Project.

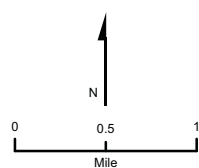
Potential pollutants associated with the operation of transportation facilities include sediment from natural erosion; nutrients, such as phosphorus and nitrogen, associated with freeway landscaping, mineralized organic matter in soils, nitrite discharges from automobile exhausts, and atmospheric fallout; litter; and metals from the combustion of fossil fuels, the wearing of brake pads, and corrosion of galvanized structures (NDOT, 2006).

Table 3.7-2 lists the existing project tributary area (both pervious and impervious) within the Truckee Meadows watershed. The watershed area is compared to the area of existing NDOT ROW within the project limits. The maximum NDOT tributary area to the watershed is less than 1 percent (Parsons, 2011f).





Source: Parsons 2011



#### LEGEND

- Project Area
- Waterways



*Pyramid Way and McCarran Boulevard  
Intersection Improvement Project*

#### Hydrographic Area

Figure 3.7-1



<b>Table 3.7-1 Construction Site Activities, Materials, and Associated Pollutants</b>		
<b>Construction Site Activity</b>	<b>Construction Site Materials</b>	<b>Pollutant</b>
Vehicle and Equipment Cleaning, Fueling, and Maintenance	Vehicle Fluids	Oil Grease Petroleum Coolants
Concrete Cement Operations and Concrete Waste Management	Portland Concrete Cement and Masonry Products	Portland Concrete Cement
		Masonry Products
		Sealant (Methyl Methacrylate)
		Incinerator Bottom Ash Bottom Ash Steel Slag Foundry Sand Fly Ash
		Mortar Concrete Rinse Water
	Curing Compounds	Non-Pigmented Curing Compounds
Landscaping	Landscaping and Other Products	Aluminum Sulfate
		Sulfur-Elemental
		Fertilizers-Inorganic
		Fertilizers-Organic
		Natural Earth (Sand Gravel and Topsoil)
		Herbicide
		Pesticide
Excavation and Grading	Contaminated Soil	Lime
		Aerially Deposited Lead Petroleum

Source: NDOT, 2006.

<b>Table 3.7-2 Existing Project Tributary Area within the Truckee Meadows Watershed</b>				
<b>Watershed</b>	<b>County</b>	<b>Watershed Area (Acres)</b>	<b>Build Alternative</b>	
			<b>Existing Project Tributary Area (acres)</b>	<b>Existing Project Contribution to Watershed (%)</b>
Truckee Meadows	Washoe	129,920	23.31	0.018

Source: Parsons, 2011f.

### **Build Alternative**

Potential long-term impacts were analyzed by determining the proposed additional impervious surface area (ISA) for the Build Alternative. Table 3.7-3 compares the existing and proposed ISA, within the project limits, for the Build Alternative. Overall, the Build Alternative would result in a 30 percent increase in additional ISA within the project limits.

<b>Table 3.7-3 Comparison of Existing and Proposed Impervious Surface Area for the Build Alternative</b>			
<b>Existing Impervious Surface Area (acres)</b>	<b>Proposed Additional Impervious Surface Area (acres)</b>	<b>Total Impervious Surface Area (acres)</b>	<b>Percentage of Additional Impervious Surface Area (%)</b>
17.08	7.33	24.41	30

The Build Alternative may include the design and installation of Permanent BMPs to the maximum extent practicable (MEP). The Planning and Design Guide (NDOT, 2006) would be used to determine the use of potential Permanent BMPs. A Permanent BMP strategy to compensate for potential pollutant sources associated with operation of the project would be developed during subsequent design phases.

Without implementation of NDOT Permanent BMPs, increases in impervious areas could impact downstream channel erosion processes, leading to increased channel scouring and sediment deposition through changes in peak discharges and runoff volumes.

For the Build Alternative, the water quality flow and the water quality volume would be routed away from local drainage courses and conveyed to an appropriate Permanent BMP; therefore, at the onset of a design storm event,<sup>6</sup> it is anticipated that there would be no observable increase in the surface water quality constituent loadings at each of the local drainage areas.

Section 3.7.5 discusses Project Design and Maintenance BMPs as permanent measures that would be implemented to improve stormwater quality during operation of the transportation facility after completion of construction.

Potential short-term impacts were analyzed by determining the amount of disturbed soil area (DSA) for the Build Alternative. Table 3.7-4 displays the temporary DSA for the Build Alternative. Short-term impacts caused by the Build Alternative include potential increases in sediment loads due to removal of existing groundcover and disturbance of soil during grading. Implementation of the SWPPP is expected to attenuate and minimize the amount of soil released from the construction site.

<sup>6</sup> The maximized detention volume is determined by the 85th percentile runoff capture ratio. This method is described in Chapter 5 of the *Urban Runoff Quality Management WEF Manual of Practice No. 23*, 1998, published jointly by the Water Environment Federation (WEF) and the American Society of Civil Engineers (ASCE). This method requires the designer to assume a drawdown time. Drawdown time between 2 and 7 days can be used (the 2-day limit provides adequate settling and the 7-day maximum addresses vector concerns) (NDOT, 2006).

**Table 3.7-4  
Temporary Disturbed Soil Area for the Build Alternative**

<b>Watershed</b>	<b>County</b>	<b>Watershed Area (acres)</b>	<b>Disturbed Soil Area (acres)</b>
Truckee Meadows	Washoe	129,920	27.50

### **No Build Alternative**

The No Build Alternative would not construct the Pyramid Way and McCarran Boulevard Intersection Improvement Project; therefore, there would be no impacts to existing water quality.

### **3.7.5 Best Management Practices**

Temporary, Permanent, and Maintenance BMPs would be implemented during construction and operation of the proposed project to minimize potential stormwater and nonstormwater impacts to water quality. The NDOT Storm Water Management Plan (SWMP) (NDOT, 2005) describes how NDOT would comply with their Statewide MS4 Permit. The BMPs are organized into three categories, as shown in Table 3.7-5.

**Table 3.7-5  
NDOT BMP Categories**

<b>BMP</b>	<b>Description</b>
Temporary	Temporary soil stabilization and sediment control; nonstormwater management, waste management and material pollution control; slope protection; and disturbed area stabilization BMPs.
Permanent	Designed to control pollution at the source or treat stormwater runoff by removing contaminants. Permanent BMPs include Source Control Measures or Soil Stabilization BMPs and Treatment Control Measures.
Maintenance	Storm water drainage system facility maintenance activities such as inspection of drop inlets and culverts for silt, debris or blockage; erosion control BMPs on damaged slopes; snow removal and ice control; vegetated treatment control; pesticide, herbicide, and fertilizer management BMPs; and hazardous materials management BMPs.

*Source: NDOT, 2005.*

Potential short-term water quality impacts associated with the construction phase would be minimized with the implementation of Temporary BMPs. Potential long-term water quality impacts associated with the operation and maintenance of the transportation facility would be minimized with the implementation of Maintenance and Permanent BMPs. Overall, with incorporation of Temporary, Permanent, and Maintenance BMPs, no adverse impacts are anticipated with implementation of the proposed project.

### **3.7.6 Mitigation Measures**

#### **Construction Phase (Short Term)**

The Contractor shall conform to current federal, State, and local regulatory requirements to minimize impacts to water resources and water quality, including:

- Conforming to the requirements of the NDOT Statewide MS4 Permit, NV0023329, in addition to the BMPs specified in the NDOT SWMP (NDOT, 2005). The Contractor

shall also conform to the requirements of the General Permit for Storm Water Discharges Associated with Construction Activity, NPDES No. NVR100000 and any subsequent permit in effect at the time of construction.

- Preparing and implementing the SWPPP. The SWPPP shall address all State and federal water control requirements and regulations. The SWPPP shall address all construction-related activities, equipment, and materials that have the potential to impact water quality. All Temporary BMPs will follow the latest edition of the Storm Water Quality Handbooks, Construction Site BMP Manual (NDOT, 2006a) to control and minimize the impacts of construction-related pollutants. The SWPPP shall include BMPs to control pollutants, sediment from erosion, stormwater runoff, and other construction-related impacts.

All work will conform to the Temporary BMP requirements specified in the latest edition of the NDOT SWMP to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed(s). These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other nonstormwater BMPs.

### **Post-construction Period (Long Term)**

The NDOT SWMP describes BMPs and practices to reduce the discharge of pollutants associated with the stormwater drainage systems of State highways, facilities, and activities. The completed project plans would incorporate all necessary Maintenance BMPs and Permanent BMPs to meet the MEP requirements. A combination of BMPs from the following categories will be implemented as part of the proposed project:

- Permanent Soil Stabilization BMPs – Permanent soil stabilization systems will be incorporated into project design, such as preservation of existing vegetation, concentrated flow conveyance systems (e.g., drainage ditches, dikes, berms, swales), and slope/surface protection systems that utilize either vegetated or hard surfaces. Identification of Permanent Soil Stabilization BMPs will occur during final design.
- Treatment Control BMPs – All NDOT-approved Treatment Control BMPs will be implemented to the MEP. Treatment Control BMPs may include traction sand traps, infiltration devices, detention devices, biofiltration strips/swales, and gross solids removal devices.

## **3.8 Floodplains**

### **3.8.1 Federal Regulations**

#### **National Flood Insurance Program**

The Federal Emergency Management Agency (FEMA) developed the National Flood Insurance Program (NFIP) to assist thousands of communities across the country with floodplain management. NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these participating communities. In addition to providing flood insurance and reducing flood damages through floodplain management regulations, the NFIP identifies and maps the nation's floodplains. Mapping flood hazards creates broad-based awareness of the flood hazards and provides the data needed for floodplain management programs and to actuarially rate new construction for flood insurance.



EO 11988 directs all federal agencies to avoid to the extent practicable and feasible all short-term and long-term adverse impacts associated with floodplain modification and to avoid direct and indirect support of development in 100-year floodplains whenever there is a reasonable alternative available. Projects that encroach upon 100-year floodplains must be supported with additional specific information. The USDOT Order 5650.2, Floodplain Management and Protection, prescribes “policies and procedures for ensuring that proper consideration is given to the avoidance and mitigation of adverse floodplain impacts in agency actions, planning programs, and budget requests.” The order does not apply to areas with Zone C (areas of minimal flooding as shown on FEMA Flood Insurance Rate Maps [FIRM]).

### **U.S. Environmental Protection Agency**

Under the CWA, the U.S. Environmental Protection Agency (EPA) was granted authority to implement pollution control programs such as setting wastewater standards for industry. The CWA established the basic structure for regulating discharges of pollutants into waters of the United States; in addition, it contains requirements to set water quality standards for all contaminants in surface waters. The CWA created the NPDES permit program to regulate the discharge of any pollutant from a point source into navigable waters by requiring those point sources to obtain a permit if their discharges go directly to surface waters.

### **Federal Emergency Management Agency**

A Floodplain Evaluation is required as described under the NFIP (23 CFR 650, Subpart A Section 650). Section 650.111 of the regulations calls for location hydraulic studies to be performed with detailed engineering design drawings. Hydraulic modeling would be required, along with a hydraulic report summarizing the results (to be submitted for review by the local agencies listed in the FIRMs). A Conditional Letter of Map Revision (CLOMR) and a Letter of Map Revision (LOMR) may be required by FEMA for work in a floodway or for work resulting in significant impacts to the 100-year floodplain.

### **Clean Water Act (33 U.S.C. § 1251 *et seq.*)**

The purpose of the CWA is restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters through prevention and elimination of pollution. The CWA applies to discharges of pollutants into waters of the United States. The NDEP is the State agency with primary responsibility for implementation of state and federally established regulations relating to hydrology and water quality issues.

The CWA operates on the principle that any discharge of pollutants into the nation’s waters is prohibited unless specifically authorized by a permit; permit review is the CWA’s primary regulatory tool. The following CWA sections are most relevant to this analysis of the floodplain impacts of the project.

## **3.8.2 Required Permits and Approvals**

### **U.S. Army Corps of Engineers (USACE) 404 Permit**

This permit is required if the project impacts waters of the United States, including wetlands, under the Federal CWA (Section 404). Section 404 of the CWA enables USACE to grant permit activities within waterways and wetlands. Construction projects affecting wetlands in any state cannot proceed until a Section 404 permit has been issued.

A Section 404 permit is required, and this project may fall under the nationwide permit for linear transportation project. Nationwide Permit (NWP) 14 limits activities to construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project.

### **Section 401 Water Quality Certification: Certification by the State of Nevada Bureau of Water Quality Planning to the United States Army Corps of Engineers and U.S. Fish and Wildlife Service**

By Federal law, every applicant for a Federal permit or license for an activity that may result in a discharge into a water body must request State certification that the proposed activity will not violate State and Federal water quality standards. The NDEP's Bureau of Water Quality Planning (BWQP) is responsible for issuing or denying 401 Water Quality Certification (WQC) for NWPs. The project's discharge must comply with all applicable State and Federal laws, policies, and regulations governing protection of the beneficial uses of the State's Waters.

### **National Pollutant Discharge Elimination System Permit**

Based upon this authority, the Bureau of Water Pollution Control (BWPC) under NDEP is the state agency that issues surface water discharge permits (NV Permits or NPDES Permits). NPDES Permits regulate discharges to "waters of the United States," including lakes, streams, and dry washes. The NPDES Program also issues permits for MS4s that authorize discharges of stormwater. All NPDES Permits are sent to EPA - Region IX for review and approval before they are issued to the Nevada permittee.

#### **3.8.3 Existing Conditions**

The project area falls within the North Truckee Drain subbasin and the Truckee River watershed. The Truckee River is approximately 2.75 miles south of the project area.

There are no major rivers or wetlands adjacent to the project area. The nearest major drainages are Sun Valley Wash to the northeast and North Truckee Drain to the east. The detention basin outlet pipe for Sun Valley Wash ultimately drains to a storm drain under McCarran Boulevard. The storm drain conveys flows from the surrounding area to the North Truckee Drain.

### **Truckee River**

The Truckee River's source is the outlet of Lake Tahoe, at the dam on the northwest side of the lake near Tahoe City, California. It flows generally northwest through the mountains to Truckee, California, then turns sharply to the east and flows into Nevada, through Reno and Sparks and along the northern end of the Carson Range. At Fernley it turns north, flowing along the east side of the Pah Rah Range. It empties into the southern end of Pyramid Lake, a remnant of prehistoric Lake Lahontan, in northern Washoe County in the Pyramid Lake Indian Reservation.

### **Local Agencies**

To address the flood protection needs of the citizens, the cities of Reno and Sparks and Washoe County have formed the Truckee River Flood Management Project. The Truckee River Flood Management Project's goal is to reduce the impact of flooding in Truckee Meadows, restore the

Truckee River ecosystem, and improve recreational opportunities by managing the development and implementation of the Truckee River Flood Management Project.

### **3.8.4 Impacts**

According to FEMA FIRM Map Nos. 32031C3045G, 32031C3034G, 32031C3053G, and 32031C3061G, the project lies within Zone X Flood Hazard Area. Zone X is the flood insurance rate zone that corresponds to areas outside the 100-year floodplain or areas of 100-year sheet flow flooding where average depths are less than 1-foot. The Orr Ditch, which runs west to east, crosses McCarran Boulevard just east of Sullivan Lane, and then runs around the Wildcreek Golf Course before crossing the project site north of the Queen Way intersection via a 12-foot by 4-foot RCB. The Orr Ditch runs only at specific seasons of the year and conveys irrigation water from the Truckee River. The Orr Ditch would be extended with the widening of Pyramid Way, and the improvements would disturb 0.05-acre. The Orr Ditch is under the jurisdiction of USACE and is subject to the terms and conditions of a Section 404 permit.

### **3.8.5 Mitigation**

A Section 404 permit is required, and this project may fall under the nationwide permit for linear transportation project. The Contractor shall comply with all terms and conditions as specified in the USACE Section 404 permit.

During final design, a professional engineer with floodplain expertise shall prepare a hydrologic and hydraulic evaluation of project and offsite areas. The analysis shall compare the existing and post-project 100-year flow rates to ensure that the project does not increase downstream flows and time of concentration. In addition, the analysis shall also ensure that the project does not adversely impact surrounding properties by diverting or increasing flows towards the properties.

Because the area is not subject to a 100-year flood inundation, minimal floodplain mitigation is expected.

## **3.9 Biological Resources**

### **3.9.1 Existing Conditions**

The project area is located in the city of Sparks, Washoe County, Nevada. The area falls into the Great Basin Xeric Mixed Sagebrush, Shrubland, which is also known as the Great Basin Shrub-steppe Grassland (Brown *et al.* 2007). Flora common to the biome include sagebrush, greasewood, low sagebrush, rabbitbrush, Mormon tea, and a variety of grasses, such as wheatgrass, bottlebrush, squirreltail, Indian ricegrass, and the invasive cheatgrass.

Fauna commonly found within the region are mule deer, pronghorn, coyote, kit fox, bobcat, badger, weasel, jackrabbit, cottontail, ground squirrel, chipmunk, pocket mouse, kangaroo mouse, deer mouse, pack rat, and sagebrush vole. Birds may include golden eagle, red-tailed hawk, larks, magpie, California quail, and sage sparrow. Because the project area is highly urbanized, many of the fauna mentioned above may not inhabit areas within the ROW.

The proposed project is situated just east of the Sierra Nevada on the western edge of the Great Basin. The cities of Reno and Sparks are located in the Truckee Meadows Valley, which has an average elevation of approximately 4,400 feet above mean sea level (amsl). Sunflower

Mountain, approximately 14 miles southwest of Sparks, is 10,243 feet amsl; and Clark Mountain, approximately 12 miles east of Sparks, is 7,198 feet amsl.

The climate in the region is typical of the Great Basin, with an average annual rainfall of 7.82 inches, with most of the precipitation occurring during the winter months. Winters are cold in Sparks, with an average temperature range in January from 23.5 to 47.3 °F. Summer temperatures in July are warm and average from 53.6 to 91.7 °F (Western Regional Climate Center, 2011).

The area within the project limits has been completely disturbed from previous construction activities, and the only vegetation within the project limits consists of landscaping.

No noxious weeds were observed in the project area.

According to the Nevada Natural Heritage Program (NNHP), there are no endangered, threatened, candidate, and/or at risk plant or animal taxa recorded within a 1-kilometer radius of the project area.

### **3.9.2 Impacts**

Construction would occur in existing ROW and areas of new ROW that have been previously disturbed. Approximately 28 acres of previously disturbed soil would be disturbed during construction of the Build Alternative. Loss of existing landscaped vegetation would have a minor impact on resident wildlife (i.e., rodents and reptiles) that depend on it for forage and cover.

Disturbance of soil and vegetation allows opportunistic noxious weed species to potentially invade the disturbed area. The likelihood of noxious weed invasion depends on many factors. If noxious weeds do not exist in the project area, the probability of future establishment is reduced. The proximity of the site to an established seed source may dictate whether the site is likely to become infested. Noxious weeds were not observed within the project limits.

### **3.9.3 Mitigation**

A noxious weed management plan will be specified in the contract documents and implemented by the contractor to prevent noxious weeds from becoming established in the proposed project area during and after construction. Per NRS 555, the noxious weed management plan will include, but is not limited to, the following elements.

- Methods for keeping equipment, personnel, staging areas, construction and excavation sites, and roadways clear of noxious weed plants and seeds.
- Equipment leaving noxious weed-infested areas shall be cleaned prior to moving to another location.
- Equipment coming into or leaving the project area shall be cleaned and the cleaning area kept clear of plant material and contaminated dirt to prevent weed spread.
- The plan shall also address the treatment of weeds in topsoil salvage material.
- The plan must be submitted to the Resident Engineer (RE) and forwarded to the NDOT Environmental Services Division for review at least 14 days prior to the commencement of clearing and grubbing operations.



### 3.10 Air Quality

The proposed project site and vicinity are subject to air quality regulations developed and implemented at the federal, state, and local levels. The local air quality management authority in the project area is the Washoe County District Health District, Air Quality Management Division (WC-AQMD).

#### 3.10.1 Federal Regulations and Standards

##### Clean Air Act

Pursuant to passage of the federal Clean Air Act (CAA) of 1970, EPA established National Ambient Air Quality Standards (NAAQS). The NAAQS were established for several major pollutants, termed “criteria pollutants.” The NAAQS are two-tiered: primary standards to protect public health and secondary standards to prevent environmental degradation.

Table 3.10-1 lists the criteria pollutants relevant to the project area, corresponding standards, and Washoe County attainment status.

<b>Table 3.10-1 National Ambient Air Quality Standards and Washoe County Attainment Status</b>				
Pollutant	Averaging Period	Standards		Attainment Status (Washoe County)
		Primary	Secondary	
Ozone (O <sub>3</sub> )	8-hour	0.075 ppm	Same as primary	Unclassifiable/Attainment
Particulate Matter (PM <sub>10</sub> ) <sup>a</sup>	24-hour	150 µg/m <sup>3</sup>	Same as primary	Serious Nonattainment <sup>a</sup>
Particulate Matter (PM <sub>2.5</sub> )	24-hour	35 µg/m <sup>3</sup>	Same as primary	Attainment
	Annual (AAM)	15 µg/m <sup>3</sup>	Same as primary	Attainment
Carbon Monoxide (CO)	1 hour	35 ppm	None	Attainment/Maintenance <sup>a</sup>
	8 hour	9 ppm		
Nitrogen Dioxide (NO <sub>2</sub> )	Annual (AAM)	53 ppb	Same as primary	Attainment
	1-hour	100 ppb	-	n/a <sup>b</sup>
Sulfur Dioxide (SO <sub>2</sub> )	Annual (AAM) <sup>c</sup>	0.03 ppm	-	Attainment
	24-hour <sup>c</sup>	0.14 ppm	-	Attainment
	3-hour	-	0.5 ppm	-
	1-hour	75 ppb	-	n/a <sup>b</sup>
Lead (Pb)	Rolling 3-month average	0.15 µg/m <sup>3</sup>	Same as primary	Attainment
	Calendar Quarter	1.5 µg/m <sup>3</sup>	Same as primary	Attainment

Notes:  
AAM = annual arithmetic mean; ppm = parts per million; ppb = parts per billion; µg/m<sup>3</sup> = micrograms per cubic meter;  
n/a = not available  
<sup>a</sup> The Truckee Meadows area (HA 87) is serious nonattainment for 24-hour PM<sub>10</sub>, and maintenance for CO; the rest of the County is in attainment with these standards.  
<sup>b</sup> Final rule for the standard was signed on June 2, 2010. The appropriate recorded ambient data and area designation are not yet available. To attain this standard, the 3-year average of the 98<sup>th</sup> percentile (for NO<sub>2</sub>) and 99<sup>th</sup> percentile (for SO<sub>2</sub>) of the daily maximum 1-hour average concentrations of pollutant at each monitor within an area must not exceed 100 ppb and 75 ppb for NO<sub>2</sub> and SO<sub>2</sub>, respectively.  
<sup>c</sup> EPA revoked both annual and 24-hour SO<sub>2</sub> standards, effective August 23, 2010.

Source: EPA, 2011.

### **Attainment Status**

The CAA requires areas of the county to be designated as either attainment or nonattainment for each of the criteria pollutants, based on whether compliance with the NAAQS has been achieved. According to EPA, the entire state of Nevada is in attainment/unclassifiable status for particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>) (EPA, 2011). Washoe County attainment status is included in Table 3.10-1. Within Washoe County, the Truckee Meadows area, defined as Hydrographic Area 87 (HA 87), is designated as a serious nonattainment area for particulate matter less than 10 microns in diameter (PM<sub>10</sub>). In July 2009, a revision to the PM<sub>10</sub> State Implementation Plan (SIP) was submitted to EPA Region IX requesting redesignation of HA 87 to attainment/maintenance for the 24-hour PM<sub>10</sub> NAAQS. On April 19, 2011, EPA published a final rule (76 FR 21807) finding that: (1) Truckee Meadows failed to attain the NAAQS by the applicable date; and (2) Truckee Meadows is currently attaining the NAAQS based on recent monitoring data (2007-2009). The rule does not change the “Serious” nonattainment designation. Washoe County is in attainment for all other NAAQS.

#### **3.10.2 Existing Conditions**

The proposed project corridor is located within Truckee Meadows and Hydrographic Area 87 (HA 87), which is in nonattainment for PM<sub>10</sub>. This area (HA 87) is in maintenance status for carbon monoxide (CO).

#### **3.10.3 Impacts**

##### **Regional Air Quality Conformity**

The RTC is the Metropolitan Planning Organization (MPO) for the project region. The most recent approved/adopted transportation plan in the project area is the RTP FY 2008-2030, and the most recent federally approved transportation implementation plan is the FY 2011-2015 RTIP.

To be in conformance, a project must be included in the list of projects of the federally approved transportation plans and programs. The proposed project is included in the FY 2008-2030 RTP on page 3-28, and in the project listing of the FY 2009-2013 RTIP, page 5 of Amendment #11, with the description: Geographic Improvements (Pyramid Highway Urban Interchange @ McCarran Blvd). The proposed project is also included in the FY 2011-2015 RTIP Table 7-1.

##### **Project-Level Conformity**

The local impact analysis is commonly referred to as project-level air quality or hot-spot analysis. According to the EPA transportation conformity rule, a project-level conformity determination is required for projects in CO, PM<sub>10</sub>, and PM<sub>2.5</sub> nonattainment and maintenance areas. The project area (Truckee Meadows Hydrographic Basin - HA87) is currently designated as maintenance for CO and nonattainment for PM<sub>10</sub>; therefore, hot spot analyses were performed for CO and PM<sub>10</sub> to determine if the project would cause any new violations of the NAAQS for these pollutants or would increase the frequency or severity of any existing violation. The approach to the local impact analysis is tiered and is dependent on the SIP and can be qualitative or quantitative. The project area is in attainment for PM<sub>2.5</sub> emissions (EPA, 2005); therefore, PM<sub>2.5</sub> analysis was not performed for this technical study.

## Carbon Monoxide

According to the guidelines provided in the EPA document: *Guideline for Modeling Carbon Monoxide from Roadway Intersections* (EPA, 1992), CO dispersion modeling is required for critical intersections affected by the proposed project, where the LOS is D or worse or those that have changed to LOS D or worse by project implementation. Table 3.10-2 presents the projected traffic conditions at the affected intersections. As shown, under the Build Alternative, the LOS and delay times would improve considerably compared to the no-build scenario. Furthermore, all affected intersections would operate at LOS C or better, except for one. The intersection of Pyramid Way and McCarran Boulevard would improve from LOS F during both AM and PM traffic peak periods to LOS D and E during AM and PM peak hours, respectively. For this intersection, local CO concentrations were estimated using the EPA CAL3QHC dispersion model. The modeled concentrations are presented in Table 3.10-3.

<b>Table 3.10-2 Peak-Hour Traffic Condition at Affected Intersections Existing Scenario and Horizon Year</b>							
Intersection	Peak Hour	Existing, Year 2010		Traffic Condition for 2030			
		LOS	Delay/ Vehicle	No Build		Build	
				LOS	Delay/ Vehicle	LOS	Delay/ Vehicle
McCarran Boulevard/Rock Boulevard	AM	A	7.6	A	7.5	A	9.7
	PM	E	55.2	D	46.6	<b>B</b>	<b>18.1</b>
McCarran Boulevard/Pyramid Way	AM	E	64.5	F	93.0	<b>D</b>	<b>38.3</b>
	PM	F	116.8	F	132.6	E	65.1
McCarran Boulevard/4 <sup>th</sup> Street	AM	B	11.6	B	15.2	B	14.3
	PM	C	20.4	F	104.7	C	21.0
Pyramid Way/Queen Way	AM	D	37.1	F	182.4	<b>B</b>	<b>17.8</b>
	PM	C	26.4	D	48.5	<b>B</b>	<b>16.4</b>
Pyramid Way/Roberta Lane	AM	B	10.8	B	11.9	B	10.9
	PM	B	16.7	B	15.7	B	13.0
Pyramid Way/York Way	AM	A	5.6	A	5.7	A	7.4
	PM	B	13.7	B	14.9	B	14.0

Delay is presented in seconds.

Significant improvements due to proposed project (Build Alternative) compared to the no-build condition are shown in **bold**.

Source: Parsons, 2012d.

<b>Table 3.10-3 Localized CO Concentrations at the Affected Intersection – Year 2030</b>			
Intersection	Peak Hour	1-hour Concentration (ppm)	8-hour Concentration (ppm)
McCarran Boulevard/Pyramid Way	AM	5.0	3.45
	PM	4.5	3.1
National Standard (ppm)		35	9

Note: Total CO concentrations include background 1-hour and 8-hour concentrations of 4.4 and 2.9 ppm, respectively, based on Washoe County Health District- Air Quality Trends (2002-2011) for Washoe County.

<sup>a</sup> The 8-hour CO concentrations were calculated using a 0.7 persistence factor in the following equation:

$$CO_{(8-hr)} = CO_{(8-hr)} + 0.7 * (1-hr \text{ project contribution from modeling})$$

Source: NDOT, 2012.

Table 3.10-3 indicates that under the Build Alternative the worst-case condition at the analyzed intersection for the 1-hour CO concentration would be 5.0 and 4.5 parts per million (ppm) and the 8-hour CO concentration would be 3.45 and 3.1 ppm. These concentrations are below the 1-hour and 8-hour national standards of 35 ppm and 9 ppm, respectively; therefore, the proposed project would not have a potential for CO hot-spot generation and would not cause any violation of the 1-hour and 8-hour CO NAAQS in future years.

### Particulate Matter

Sources of PM<sub>10</sub> during operation of the project include vehicle exhaust, brake wear, and tire wear, as well as re-entrained road dust. Pollutant emissions from vehicle exhaust typically are highest during vehicle idling. The Build Alternative would improve traffic flow and reduce congestion and idling time at the affected intersections. In addition, as summarized in Table 3.10-4, although under the Build Alternative the average daily volumes increase along 10 of the 12 affected roadway segments, the average speeds increase and traffic flow would improve with the Build Alternative compared to no-build scenario. As such, the proposed project would reduce exhaust emissions of particulate matter (PM) compared to the no-build scenario.

<b>Table 3.10-4 Roadway Segments Traffic Conditions – Horizon Year 2030</b>									
Roadway Segment	Traffic Direction	AADT – All Vehicles		% Change	Truck AADT		% Trucks Build and No Build	Peak-Hour Speed (AM/PM)	
		No Build	Build		No Build	Build		No Build	Build
McCarran Boulevard – Rock Boulevard to Pyramid Way	EB	12,315	14,370	16.7	25	29	0.2	27/6	26/20
	WB	13,020	14,830	13.9	26	30	0.2	30/40	<b>39/39</b>
McCarran Boulevard – Pyramid Way to 4 <sup>th</sup> Street	EB	6,460	6,850	6.0	13	14	0.2	27/21	26/19
	WB	9,285	9,135	-1.6	19	18	0.2	2/3	12/14
Pyramid Way – North of Queen Way	NB	20,850	19,075	-8.5	42	38	0.2	34/34	<b>41/39</b>
	SB	20,740	21,010	1.3	41	42	0.2	6/5	<b>33/35</b>
Pyramid Way – Queen Way to McCarran Boulevard	NB	15,615	18,105	15.9	31	36	0.2	26/6	<b>33/22</b>
	SB	16,775	20,420	21.7	34	41	0.2	4/25	<b>18/22</b>
Pyramid Way – McCarran Boulevard to Roberta Lane	NB	8,040	8,515	5.9	193	204	2.4	12/8	<b>14/10</b>
	SB	11,545	12,655	9.6	277	304	2.4	26/27	<b>35/31</b>
Pyramid Way – Roberta Lane to York Way	NB	7,860	8,335	6.0	189	200	2.4	25/21	<b>30/26</b>
	SB	12,070	13,180	9.2	290	316	2.4	19/11	<b>27/14</b>

EB – eastbound; NB – northbound; SB – southbound; WB – westbound

Notes: Significant improvement in peak-hour average speeds due to the proposed project are shown in bold. The AADT volumes for No Build and Build are from the RTC travel forecast model.

Source: Parsons, 2012d.

EPA and FHWA in their guidance document *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas* [EPA420-B-06-902, March 2006] issued a tiered approach to address the localized impacts of PM. The proposed project, as discussed below is not a Project of Air Quality Concern (POAQC).



Pursuant to Federal Conformity Regulations [specifically, 40 CFR 93.105 (c)(1)(i)], an Interagency Review Form was prepared for the proposed project and was submitted to the Transportation Working Group for interagency consultation on September 14, 2012. This group consists of representatives from the Washoe County RTC, WC-AQMD, FHWA, NDOT, and EPA Region IX.

It was concluded that the proposed project is not considered a POAQC because it does not meet the definition of a POAQC as defined in the EPA Transportation Conformity Guidance. Projects of air quality concern are defined as:

- i. New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;

The proposed project is not a new or expanded highway project. The project is proposed to improve operations at an intersection of two arterial roadways with low volume (truck average daily traffic [ADT] between 13 and 316), and percentages of diesel vehicles (0.2 percent and 2.4 percent), as presented in Table 3.10-4. The proposed project would not affect the traffic mix (i.e., percentage of diesel trucks) at the intersection or along the affected roadways.

- ii. Projects affecting intersections that are at LOS D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

The proposed project Build Alternative is intended to enhance the operational characteristics of a congested intersection (projected to operate at LOS F) and to improve safety for motorists, bicyclists, and pedestrians. The Build Alternative would improve the LOS and/or delay per vehicle at all affected intersections (see Table 3.10-2).

- iii. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;

The project does not include any new bus or rail terminals or transfer points.

- iv. Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location;

The project does not include any expanded bus or rail terminals or transfer points.

- v. Projects in or affecting locations, areas, or categories of sites that are identified in the PM<sub>2.5</sub> or PM<sub>10</sub> applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The project site is not identified in the SIP as a site of possible violation for PM<sub>10</sub>. According to the 2030 RTIP, there are no sites of potential PM<sub>10</sub> violation identified in the County.

Based on the above discussion, although the proposed project is located in a PM<sub>10</sub> nonattainment area (HA 87), it would not be considered a POAQC. The project operation would not cause a potential PM hot spot; therefore, a qualitative or quantitative PM analysis is not required.

Furthermore, construction of the proposed improvements would last 18 months and would comply with WC-AQMD Rule 040.030; therefore, temporary construction emissions are not required to be considered in a hot spot analysis.

### **Mobile Source Air Toxics**

The proposed project improves traffic operations of an existing facility to provide safe traffic flow, and it would have minimal effect in mobile source air toxic (MSAT) emissions; therefore, a qualitative MSAT analysis is provided in this section. A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA guidance document entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions among Transportation Project Alternatives*.

For both the Build Alternative and No Build Alternative, the amount of MSAT emissions associated with project operation would be proportional to the vehicle miles traveled (VMT), assuming that other variables such as fleet mix are the same between the Build Alternative and No Build Alternative.

As the project's traffic study projected, there would be no change in traffic mix and truck percentage for the Build Alternative compared to the no-build scenario. The annual average daily traffic (AADT) and VMT would increase because of widening a portion of Pyramid Way from Queen Way to Tyler Way. The ultimate AADT remains well below the 140,000 AADT criterion for high potential of MSAT effect (see Table 3.10-4). Additionally, because of proposed improvements in traffic operations along the project corridor, the traffic flow (i.e., LOS) would improve, and the travel speed would increase, as shown in Tables 3.10-2 and 3.10-4.

According to MOBILE6.2 model, emissions of all priority MSATs, except diesel particulate matter (DPM), decrease as speed increases. As such, the Build Alternative would generally reduce MSAT emissions on a per mile basis. Furthermore, projected congestion relief and improved vehicle speed as a result of the proposed project would reduce the operating emission levels. This would somewhat compensate for the effect of a relatively small increase in the roadway traffic volume. As such, the magnitude, duration, and actual net effect of these potential changes, compared with the no-build scenario, cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. Furthermore, under both of the alternatives, overall future MSAT emission levels are expected to be substantially lower than present levels due to the implementation of EPA's vehicle and fuel regulations. Local conditions may differ from the national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures; however, the magnitude of the EPA-projected reductions is so great, even after accounting for regional VMT growth, that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

### **Construction Impacts**

#### **CO Impacts**

There will be short-term, localized increases in CO emissions during construction. This will be due to slowing of traffic in construction zones and also due to emissions from construction equipment; however, these CO increases would be temporary and would not cause long-term adverse effects. Contractors will be required to comply with federal, state, and local regulations for the control of air pollution, including those that prohibit unnecessary idling of diesel-powered trucks.

#### **PM<sub>10</sub> Impacts**

Emissions of fugitive dust are anticipated during construction, but the resulting increases in PM<sub>10</sub> would be temporary and would not cause long-term adverse effects. Contractors will be required

to comply with federal, state, and local regulations for the control of air pollution. All new roadway construction projects within the Truckee Meadows Basin are subject to regulations set forth by the WC-AQMD.

### **3.10.4 Mitigation**

#### ***CO Mitigation***

Contractors will be required to comply with federal, state, and local regulations for the control of air pollution, including those that prohibit unnecessary idling of diesel-powered trucks.

#### **PM<sub>10</sub> Mitigation**

Contractors will be required to comply with federal, state, and local regulations for the control of air pollution. All new roadway construction projects within the Truckee Meadows Basin are subject to regulations set forth by the WC-AQMD.

### **3.11 Energy**

The following section discusses energy impacts related to construction and operation of the proposed project. The effect of transportation projects on energy use is primarily in the use of fossil fuels. More efficient traffic operations generally result in energy savings on a broad scale.

FHWA Technical Advisory T 6640.8A procedures require a more-detailed study of energy impacts for large-scale transportation projects with potentially substantial energy impacts only. Except for large-scale projects, a detailed energy analysis, including computations of British thermal unit (BTU) requirements and other factors, would not be required. All other transportation improvements, such as the proposed project, typically would not have potentially substantial energy impacts; therefore, they would only require a general discussion of energy use required by various construction and operation activities.

#### **3.11.1 Affected Environment**

Traffic analysis results that would influence energy usage within the project area are presented in this section. Information for this section is derived from the Pyramid Way and McCarran Boulevard Intersection Improvement Project Traffic Report (Parsons, 2012d), which presents traffic analysis and results for the proposed project.

Currently, the intersection of Pyramid Way and McCarran Boulevard operates at LOS E during the AM peak period and LOS F during the PM peak period. Traffic queues resulting from insufficient capacity at this intersection extend north, thereby negatively impacting operations along southbound Pyramid Highway at Queen Way. Recurrent congestion contributes to inefficient energy consumption as vehicles use extra fuel while idling in stop-and-go traffic or moving at slow speeds.

By 2030, intersection conditions are expected to worsen, despite a projected slowdown in population and employment growth in Washoe County due to the overall economy. Additionally, with recent population growth in Spanish Springs Valley and the large number of entitled land development projects, intersection conditions would significantly worsen without major transportation investments in the Pyramid Way/Pyramid Highway corridor.

### **3.11.2 Impacts**

Under the No Build Alternative, planned traffic relief projects, such as the US 395 Connection Project, which would connect US 395 to Pyramid Highway, would help alleviate congestion within the Pyramid Highway corridor; however, 2030 traffic projections show that the Pyramid Way and McCarran Boulevard intersection would operate at LOS F both in the morning and evening peak hours. LOS F in both the morning and evening peak hours reflects the lack of capacity to accommodate the heavy peak-hour flows. The lack of capacity causes the traffic to back up, increasing the probability of experiencing multiple red signal phases, and it contributes to delay and unnecessary travel time to passenger trips. Such congested traffic conditions contribute to inefficient energy consumption, as vehicles waste fuel while idling in stop-and-go traffic or moving at low speeds on a congested freeway or on congested arterials.

Under the Build Alternative, capacity and operational improvements would improve travel conditions and lead to more efficient vehicle operations for motorists. Although the Build Alternative would not eliminate all capacity problems in 2030, they would substantially improve traffic operations. Traffic analysis results show that the proposed project, as well as all planned capacity improvement projects, would improve traffic conditions on the Pyramid Way and McCarran Boulevard intersection from LOS F under the No Build Alternative to LOS D under the Build Alternative during the morning peak hour. During the evening peak hour, intersection operations on Pyramid Way and McCarran Boulevard would improve from LOS F to LOS E. Additionally, traffic conditions at Pyramid Way and Queen Way would improve from LOS E under the No Build Alternative to LOS C under the Build Alternative during both peak hours. Other study intersections<sup>7</sup> within the project corridor would operate at improved conditions. The Build Alternative would also improve average travel speeds, thereby reducing average travel times during both peak hours. Improvements in traffic operations would contribute to reduced energy consumption, whether in the form of petroleum fuels or alternative sources of energy, compared to higher consumption under the No Build Alternative. The Build Alternative is therefore anticipated to have a beneficial effect on direct energy use compared to the No Build Alternative.

#### **Traffic on Surrounding Streets**

Traffic diversions to surrounding local streets near congested intersections are common and can cause considerable delay and additional fuel consumption. 2030 traffic forecasts show that traffic conditions on several intersections would worsen between 2003 and 2030 within the project limits. Under the 2030 No Build Alternative, three of the six study intersections (Pyramid Way and McCarran Boulevard; Pyramid Way and Queen Way; and McCarran Boulevard and 4<sup>th</sup> Street) would operate between LOS E and F in at least one of the peak hours. Under the Build Alternative, all six study intersections would operate at LOS C or better, showing reduced traffic congestion within the study area. The Build Alternative would improve traffic operations, reduce congestion at some of the most congested intersections, such as Pyramid Way and Queen Way, and reduce delay through the traffic study area.

---

<sup>7</sup> Study intersections: N. McCarran Boulevard and Rock Boulevard, N. McCarran Boulevard and Pyramid Way, N. McCarran Boulevard and Fourth Street, Pyramid Way and Queen Way, Pyramid Way and Roberta Lane, and Pyramid Way and York Way.



## **Construction Impacts**

Energy impacts related to construction activities typically involve fuel used for project trucks, construction equipment, and workers' personal vehicles, as well as the transport of raw materials used for construction activities. Under the No Build Alternative, energy impacts due to construction would require very minimal construction energy as other projects would be constructed near the project corridor. Those construction energy impacts would be analyzed in those projects' respective environmental documents. Roadway maintenance, such as resurfacing and patching, would occur from time to time until the condition of the roadway warranted complete reconstruction. Under the Build Alternative, energy would be required for onsite construction work, such as removal of existing medians, resurfacing, and grading, and for the offsite manufacture of pavement and other components. Although construction energy would be greater for the Build Alternative, these impacts on energy consumption are temporary and would be offset by long-term savings in operational energy.

## **Operation Impacts**

Primary energy usage during operation of the proposed project would mostly come from fuel and other alternative energy used for vehicles traveling over the roadway. Because roadway inspection and maintenance would require regular, but infrequent, trips to the area, energy usage for these activities would be lower than for the construction phase.

Postconstruction operational energy requirements are expected to be less per vehicle under the Build Alternative than for the No Build Alternative. Under the Build Alternative, the intersections at McCarran Boulevard and Pyramid Way and Pyramid Way and Queen Way would operate at LOS C during both peak hours, compared to LOS F under the No Build Alternative. All study intersections would operate at LOS C or better. The lessening of congestion and related traffic delay is associated with faster and less variable average travel speeds, resulting in more efficient vehicle operation under the Build Alternative compared to the No Build Alternative. Improved traffic operations are likely to reduce vehicle energy use. Additionally, the savings in operational energy requirements would more than offset construction energy requirements, thus resulting in a net savings in energy usage in the long run.

### **3.12 Greenhouse Gases and Climate Change**

Climate change is an important national and global concern. While the earth has gone through many natural changes in climate in its history, there is general agreement that the earth's climate is currently changing at an accelerated rate and will continue to do so for the foreseeable future. Anthropogenic (human-caused) greenhouse gas (GHG) emissions contribute to this rapid change. Carbon dioxide (CO<sub>2</sub>) makes up the largest component of these GHG emissions. Other prominent transportation GHGs include methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

Many GHGs occur naturally. Water vapor is the most abundant GHG and makes up approximately two-thirds of the natural greenhouse effect; however, the burning of fossil fuels and other human activities are adding to the concentration of GHGs in the atmosphere. Many GHGs remain in the atmosphere for time periods ranging from decades to centuries. GHGs trap heat in the earth's atmosphere. Because atmospheric concentration of GHGs continues to climb, our planet will continue to experience climate-related phenomena. For example, warmer global temperatures can cause changes in precipitation and sea levels.

To date, no national standards have been established regarding GHGs, nor has EPA established criteria or thresholds for ambient GHG emissions pursuant to its authority to establish motor vehicle emission standards for CO<sub>2</sub> under the CAA; however, there is a considerable body of scientific literature addressing the sources of GHG emissions and their adverse effects on climate, including reports from the Intergovernmental Panel on Climate Change, the U.S. National Academy of Sciences, and EPA and other federal agencies. GHGs are different from other air pollutants evaluated in federal environmental reviews because their impacts are not localized or regional due to their rapid dispersion into the global atmosphere, which is characteristic of these gases. The *affected environment* for CO<sub>2</sub> and other GHG emissions is the entire planet. In addition, from a quantitative perspective, global climate change is the cumulative result of numerous and varied emissions sources (in terms of both absolute numbers and types), each of which makes a relatively small addition to global atmospheric GHG concentrations. In contrast to broad-scale actions such as actions involving an entire industry sector or very large geographic areas, it is difficult to isolate and understand the GHG emissions impacts for a particular transportation project. Furthermore, there is currently no scientific methodology for attributing specific climatological changes to a particular transportation project's emissions.

Under NEPA, detailed environmental analysis should be focused on issues that are significant and meaningful to decision making.<sup>8</sup> FHWA has concluded, based on the nature of GHG emissions and the exceedingly small potential GHG impacts of the proposed action, as discussed below and shown in Table 3.12-1, that the GHG emissions from the proposed action would not result in “reasonably foreseeable significant adverse impacts on the human environment” (40 CFR 1502.22(b)). The GHG emissions from the Build Alternative would be insignificant and would not play a meaningful role in a determination of the environmentally preferable alternative or the selection of the preferred alternative. More detailed information on GHG emissions “is not essential to a reasoned choice among reasonable alternatives” (40 CFR 1502.22(a)) or to making a decision in the best overall public interest based on a balanced consideration of transportation, economic, social, and environmental needs and impacts (23 CFR 771.105(b)). For these reasons, no alternative-level GHG analysis has been performed for this project.

**Table 3.12-1  
Statewide and Project Emissions Potential, Relative to Global Totals**

	<b>Global CO<sub>2</sub> Emissions, MMT<sup>9</sup></b>	<b>Nevada Motor Vehicle CO<sub>2</sub> Emissions, MMT<sup>10</sup></b>	<b>Nevada Motor Vehicle Emissions, % of Global Total</b>	<b>Project Study Area VMT, % of Statewide VMT</b>	<b>Percent Change in Statewide VMT due to Project</b>
Current Conditions 2010)	29,670	10.3	0.0348	0.37	0.023
Future Projection (2030)	42,380	13.1	0.0310	0.24	(None)

Notes: MMT = million metric tons.

Global emissions estimates are from International Energy Outlook 2010, data for Figure 104. Nevada emissions and statewide VMT estimates are from MOVES2010a.

<sup>8</sup> See 40 CFR 1500.1(b), 1500.2(b), 1500.4(g), and 1501.7

<sup>9</sup> These estimates are from the EIA's *International Energy Outlook 2010* and are considered the best-available projections of emissions from fossil fuel combustion. These totals do not include other sources of emissions, such as cement production, deforestation, or natural sources; however, reliable future projections for these emissions sources are not available.

<sup>10</sup> MOVES projections suggest that Nevada motor vehicle CO<sub>2</sub> emissions may increase by 27 percent between 2010 and 2035; more stringent fuel economy/GHG emissions standards will not be sufficient to offset projected growth in VMT.

The context in which the emissions from the proposed project would occur, together with the expected GHG emissions contribution from the project, illustrate why the project's GHG emissions would not be significant and would not be a substantial factor in the decision making. The transportation sector is the second largest source of total GHG emissions in the U.S., behind electricity generation. The transportation sector was responsible for approximately 27 percent of all anthropogenic (i.e., human-caused) GHG emissions in the U.S. in 2009.<sup>11</sup> Most transportation GHG emissions are the result of fossil fuel combustion. CO<sub>2</sub> makes up the largest component of these GHG emissions. U.S. CO<sub>2</sub> emissions from the consumption of energy accounted for approximately 18 percent of worldwide energy consumption CO<sub>2</sub> emissions in 2009.<sup>12</sup> U.S. transportation CO<sub>2</sub> emissions accounted for approximately 6 percent of worldwide CO<sub>2</sub> emissions.<sup>13</sup>

While the contribution of GHGs from transportation in the U.S. as a whole is a large component of U.S. GHG emissions, as the scale of analysis is reduced, the GHG contributions become quite small. Using CO<sub>2</sub> because of its predominant role in GHG emissions, Table 3.12-1 presents the relationship between current and projected Nevada highway CO<sub>2</sub> emissions and total global CO<sub>2</sub> emissions, as well as information on the scale of the project relative to statewide travel activity.

Based on emissions estimates from EPA's Motor Vehicle Emissions Simulator (MOVES) model<sup>14</sup>, and global CO<sub>2</sub> estimates and projections from the Energy Information Administration, CO<sub>2</sub> emissions from motor vehicles in the entire state of Nevada contributed less than one-tenth of 1 percent of global emissions in 2010 (0.0348 percent) and are projected to contribute an even smaller fraction (0.0310 percent) in 2030.<sup>15</sup> VMT in the project study area represents 03.7 percent of total Nevada travel activity; and the project itself would increase statewide VMT by 0.023 percent. As a result,<sup>16</sup> FHWA estimates that the proposed project could result in a potential increase in global CO<sub>2</sub> emissions in 2030 of 0.0310 percent (less than one-thousandth of 1 percent), and a corresponding increase in Nevada's share of global emissions in 2030 of 0.0348

---

<sup>11</sup> Calculated from data in U.S. Environmental Protection Agency, Inventory of Greenhouse Gas Emissions and Sinks, 1990-2009.

<sup>12</sup> Calculated from data in U.S. Energy Information Administration International Energy Statistics, Total Carbon Dioxide Emissions from the Consumption of Energy, <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=90&pid=44&aid=8>, accessed 9/12/11.

<sup>13</sup> Calculated from data in EIA figure 104: [http://205.254.135.24/oiaf/ieo/graphic\\_data\\_emissions.html](http://205.254.135.24/oiaf/ieo/graphic_data_emissions.html) and EPA table ES-3: <http://epa.gov/climatechange/emissions/downloads11/US-GHG-Inventory-2011-Executive-Summary.pdf>.

<sup>14</sup> <http://www.epa.gov/otaq/models/moves/index.htm>. EPA's MOVES model can be used to estimate vehicle exhaust emissions of CO<sub>2</sub> and other GHGs. CO<sub>2</sub> is frequently used as an indicator of overall transportation GHG emissions because the quantity of these emissions is much larger than that of all other transportation GHGs combined, and because CO<sub>2</sub> accounts for 90 to 95 percent of the overall climate impact from transportation sources. MOVES includes estimates of both emissions rates and VMT, and these were used to estimate the Nevada statewide highway emissions in Table 3.12-1.

<sup>15</sup> Nevada emissions represent a smaller share of global emissions in 2035 because global emissions increase at a faster rate.

<sup>16</sup> Selected to represent a "worst case" for purposes of this comparison; the Preferred Alternative may have a smaller contribution.

percent. This very small change in global emissions is well within the range of uncertainty associated with future emissions estimates.<sup>17, 18</sup>

### ***Mitigation for Global GHG Emissions***

To help address the global issue of climate change, USDOT is committed to reducing GHG emissions from vehicles traveling on our nation's highways. USDOT and EPA are working together to reduce these emissions by substantially improving vehicle efficiency and shifting toward lower carbon-intensive fuels. The agencies have jointly established new, more stringent fuel economy and first-ever GHG emissions standards for model year 2012-2016 cars and light trucks. The agencies have proposed even more stringent standards for model year 2017-2025 vehicles, with an ultimate fuel economy standard of 54.5 miles per gallon for cars and light trucks by model year 2025. Furthermore, on August 9, 2011, the agencies jointly proposed the first-ever fuel economy and GHG emissions standards for heavy-duty trucks and buses.<sup>19</sup> Increasing use of technological innovations that can improve fuel economy, such as gasoline- and diesel-electric hybrid vehicles, will improve air quality and reduce CO<sub>2</sub> emissions in future years.

Consistent with its view that broad-scale efforts hold the greatest promise for meaningfully addressing the global climate change problem, FHWA is engaged in developing strategies to reduce transportation's contribution to GHGs – particularly CO<sub>2</sub> emissions – and to assess the risks to transportation systems and services from climate change. In an effort to assist states and MPOs in performing GHG analyses, FHWA has a project underway to develop a *Handbook for Estimating Transportation GHG Emissions for Integration into the Planning Process*. The Handbook will present methodologies reflecting good practices for the evaluation of GHG emissions at the transportation program level and will demonstrate how such evaluation may be integrated into the transportation planning process. FHWA is also working to refine a Web-based tool for use at the statewide level to model a large number of GHG reduction scenarios and alternatives for use in transportation planning, climate action plans, scenario planning exercises, and in meeting state GHG reduction targets and goals. To assist states and MPOs in assessing climate change vulnerabilities to their transportation networks, FHWA has developed a draft vulnerability and risk assessment conceptual model and is piloting it in five locations.

---

<sup>17</sup> Figure 114 of the Energy Information Administration's *International Energy Outlook 2010* shows that future emissions projections can vary by almost 20 percent, depending on which scenario for future economic growth proves to be most accurate.

<sup>18</sup> When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an EIS and there is incomplete or unavailable information, the agency is required to make clear that such information is lacking (40 CFR 1502.22). The methodologies for forecasting GHG emissions from transportation projects continue to evolve, and the data provided should be considered in light of the constraints affecting the currently available methodologies. As previously stated, tools such as EPA's MOVES model can be used to estimate vehicle exhaust emissions of CO<sub>2</sub> and other GHGs; however, only rudimentary information is available regarding the GHG emissions impacts of highway construction and maintenance. Estimation of GHG emissions from vehicle exhaust is subject to the same types of uncertainty affecting other types of air quality analysis, including imprecise information about current and future estimates of VMT, vehicle travel speeds, and the effectiveness of vehicle emissions control technology. Finally, currently there is no scientific methodology that can identify causal connections between individual source emissions and specific climate impacts at a particular location.

<sup>19</sup> For more information on fuel economy proposals and standards, see the National Highway Traffic Safety Administration's Corporate Average Fuel Economy website: <http://www.nhtsa.gov/fuel-economy/>.



Even though project-level mitigation measures will not have a substantial impact on global GHG emissions because of the exceedingly small amount of GHG emissions involved, the following measures during construction will have the effect of reducing GHG emissions.

Construction contractors working for RTC projects are required to properly maintain construction equipment and vehicles, and comply with all relevant air quality regulations, including those that prohibit unnecessary idling of diesel-powered equipment. Emissions from the application of asphalt would be relatively short-lived and temporary; therefore, they would not cause long-term adverse impacts on air quality.

These activities are part of a program wide effort by FHWA to adopt practical means to avoid and minimize environmental impacts in accordance with 40 CFR 1505.2(c).

### ***Summary***

This document does not incorporate an analysis of the GHG emissions or climate change effects of each of the alternatives because the potential change in GHG emissions is very small in the context of the affected environment. Because of the insignificance of the GHG impacts, those impacts will not be meaningful to a decision on the environmentally preferable alternative or to a choice among alternatives. As outlined above, FHWA is working to develop strategies to reduce transportation's contribution to GHGs – particularly CO<sub>2</sub> emissions – and to assess the risks to transportation systems and services from climate change. FHWA will continue to pursue these efforts as productive steps to address this important issue. Finally, the construction best practices described above represent practicable project-level measures that, while not substantially reducing global GHG emissions, may help reduce GHG emissions on an incremental basis and could contribute in the long term to meaningful cumulative reduction when considered across the Federal-aid highway program.

## **3.13 Other Environmental Consequences**

### **3.13.1 Unavoidable Adverse Impacts**

Constructing and operating the Build Alternative would irreversibly and irretrievably commit environmental resources to the project. An irreversible commitment is the permanent loss of the resource. Construction and operation of the proposed project would result in unavoidable adverse impacts to the human environment. While these impacts are considered adverse and unavoidable, mitigation measures would serve to limit detrimental impacts and the potential for any long-term or permanent impacts.

### **Social Considerations**

The proposed project would result in the displacement of 75 residential units with the Build Alternative. In addition, 8 nonresidential properties would be acquired with the Build Alternative.

### **3.13.2 Local Short-Term Uses versus Long-Term Productivity**

#### **Short-Term Effects of the Proposed Project**

Short-term project costs include the commitment of substantial financial and material resources. Short-term uses of the human environment include construction effects on local air quality, ambient noise levels, and local circulation and access. These impacts will be mitigated.

### **Long-Term Effects of the Proposed Project**

Long-term benefits would include improved traffic operations along Pyramid Way and McCarran Boulevard and adjacent arterials in the project area, and improved access within the region. Widespread LOS F congestion levels would be reached if the No Build Alternative is implemented. Implementation of the Build Alternative would improve LOS to acceptable levels.

#### **3.13.3 Irreversible and Irretrievable Commitment of Resources**

Implementation of the Build Alternative would require a commitment of natural, physical, human, and fiscal resources. The proposed project's use of nonrenewable resources during construction and operation would include fossil fuels for construction vehicles and equipment. During operation, vehicles traveling along the constructed improvements would use fossil fuels and alternative energy forms. Electrical energy would also be used onsite to power maintenance trailers and other equipment.

Fossil fuels and electrical energy would be expended to manufacture the materials and products associated with roadway construction. In addition to those materials, other materials, such as concrete, sand, aggregate, and steel, would be used. These resources are not retrievable; however, the proposed project would not have an adverse effect on their continued availability. Operation of the Build Alternative would result in greater fuel efficiency and improved air emissions from vehicles traveling along Pyramid Way and McCarran Boulevard.

Land has been committed at the existing intersection for use as a transportation facility. Implementation of the Build Alternative would require the commitment of additional land, which would result in the conversion of other land uses to transportation-related facilities.

Land used for the proposed project is considered an irreversible commitment during the time it is used for a transportation facility. Should a greater need arise for the use of the land, or if the roadways are no longer needed, the land could be converted to another use; however, once the proposed project is constructed, such a conversion would not likely happen or be necessary.

Construction of the proposed project would require a substantial expenditure of local, state, and federal funds, which are not considered retrievable. Long-term maintenance costs would also be considered irretrievable.

## 4. SECTION 4(f) DE MINIMIS IMPACT EVALUATION

---

This chapter provides an evaluation of the proposed project relative to Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303) and its implementing regulations, codified by FHWA in March 2008 as a Final Rule at 23 CFR Part 744.

### 4.1 Legal and Regulatory Setting

Section 4(f) of the Department of Transportation Act of 1966, a law applying only to agencies within the USDOT, states it is the policy of the federal government “that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites” (49 U.S.C. 303). Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance located on public or private land, only if:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

The Section 4(f) “use” of a resource is defined and addressed in the FHWA Regulations at 23 CFR 774.17. “Use” is defined as: Except as set forth in §§ 774.11 and 774.13, a “use” of Section 4(f) property occurs: (1) When land is permanently incorporated into a transportation facility; (2) When there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose as determined by the criteria in § 774.13(d); or (3) When there is a constructive use of a Section 4(f) property as determined by the criteria in § 774.15.”

**De Minimis Impact.** FHWA may determine that the use of a Section 4(f) property, including any measure(s) to minimize harm, will have a *de minimis* impact on the property, as defined in 23 CFR 774.17. For historic sites, a *de minimis* impact means that FHWA has determined, in accordance with 36 CFR 800, that no historic property is affected by the project or that the project will have “no adverse effect” on the historic property in question. For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f).

### 4.2 Proposed Action

The proposed action and alternatives considered are described in detail in Chapter 2 of this Draft EIS. Pyramid Way and North McCarran Boulevard are currently two through lanes in each direction. The following three potential intersection improvement alternatives were identified as a result of a March 2006 alternatives screening process:

- Direct Connection – Eastbound-to-Northbound Flyover Ramp

#### **4. Section 4(f) De Minimis Impact Evaluation**

- Expanded At-Grade Intersection
- Pyramid Way Grade Separation over McCarran Boulevard

Based on additional analysis, the above alternatives were subsequently eliminated from further consideration and a Preferred Alternative was identified, designated The Modified Expanded At-Grade Intersection. The Preferred Alternative includes the following improvements:

- Widening Pyramid Way from two lanes to three lanes in each direction from Queen Way to Tyler Way (North McCarran Boulevard will remain two lanes in each direction).
- Constructing additional turning lanes at the Pyramid Way/North McCarran Boulevard intersection.
- Redesigning the existing Queen Way/Pyramid Way intersection to improve access to the surrounding neighborhoods.
- Existing street intersections on Pyramid Way at Tyler Way, York Way, Roberta Lane, and Mercy Court would be maintained at their current locations, with minor adjustments to accommodate the added lanes on Pyramid Way.
- The existing intersection at Gault Way would no longer be maintained because it is in conflict with the proposed right-turn lane. Access to the properties on Gault Way on the east side of Pyramid Way would be provided via 4<sup>th</sup> Street.
- The median at the Emerson Way intersection would be closed to create a right-turn-in and right-turn-out configuration on both the east and west legs of Emerson Way. This is designed for the purpose of preventing vehicles from making left turns from Pyramid Way and crossing three lanes of traffic on Pyramid Way.

#### **4.3 Section 4(f) Properties in the Project Area**

The Pyramid Way and McCarran Boulevard Intersection Improvement Project area was subjected to background research, field surveys, and aerial photo analysis in an effort to identify any public parks, recreation areas, wildlife and waterfowl refuges, and historic sites (properties) potentially affected by the proposed project.

As discussed in Section 3.3.2 Social Environment – Parks and Recreation Facilities, there are several municipal recreation facilities within the general project area. Closest to the proposed project, Village Green Park, at 849 Lepori Way, is located west of Pyramid Way and south of Queen Way. The park is separated from the proposed improvements by a landscaping business and would not be impacted by the Preferred Alternative. There would be no use of the Village Green Park.

##### **4.3.1 Archaeological Resources**

A segment of a linear resource, the previously determined NRHP-eligible Orr Ditch (26WA5352), was identified within the project area. The segment of the Orr Ditch located to the east of Pyramid Way is a noncontributing segment (i.e., ineligible) because later alterations made to the water conveyance system at that location substantially diminished its integrity. The segment of the Orr Ditch located to the west of Pyramid Way was identified as a contributor to the NRHP-eligible Orr Ditch. FHWA submitted a request for SHPO's concurrence in its



eligibility determination on August 17, 2012. SHPO concurred with FHWA in a letter dated September 14, 2012 (see Appendix B). There would be no impacts to the Orr Ditch west of Pyramid Way.

### **4.3.2 Architectural Resources**

The historic properties qualifying as Section 4(f) resources are those determined by NDOT, FHWA, and SHPO to be of national, state, or local significance, as evidenced by being determined eligible for inclusion in the NRHP. FHWA determined that there are two resources within the project limits (Map ID #270 and #267) that are eligible for the NRHP. In consultation with SHPO, FHWA will treat Green Brae Terrace (Map ID# 1-80 on Figure 3.5-1) as eligible for the NRHP as a district (See Table 4-1). Eighty (80) houses within the Green Brae Terrace District are within the project's APE. Seventy-five (75) of these houses were built during or prior to 1969. These 75 houses were evaluated for the NRHP and FHWA determined they were not individually eligible for the NRHP. In consultation with SHPO, FHWA is treating the houses as contributing elements to the Green Brae Terrace District.

<b>Table 4-1 NRHP-Eligible Properties within the APE</b>					
<b>Map ID #</b>	<b>SHPO Resource ID #</b>	<b>Address</b>	<b>APN</b>	<b>Year Built</b>	<b>NHRP Eligibility Status</b>
270	B8165	2965 Pyramid Way (Pierson/Lagomarsino)	027-132-09	1924	Individually Eligible; Criterion C
267	B12132	2975 Pyramid Way (Solorio)	027-132-12	1930	Individually Eligible; Criteria A & C
1-80	D112	SE quadrant of Pyramid-McCarran Intersection Green Brae Terrace District	Varies	1948-63	Unevaluated, treated as eligible as District; Criteria A C

## **4.4 Impacts on Eligible Section 4(f) Properties**

As discussed above, three types of uses are defined in Section 4(f) regulations: direct use, temporary occupancy, and constructive use. In this section, these types of Section 4(f) uses are analyzed with respect to the proposed project. Effects on archaeological and historic properties were assessed in accordance with Section 106 of the NHPA and the implementing regulations, applying criteria defined in 36 CFR 800.5 (a)(2), in consultation with the SHPO.

### **4.4.1 Effects on Archaeological Resources**

East of Pyramid Way, the Orr Ditch would be extended with the widening of Pyramid Way, and the improvements would disturb 0.05-acre. As discussed in Section 4.3.1, the eastern segment (26WA5352) of the Orr Ditch no longer retains the essential physical features that enable it to adequately convey its historic identity; therefore, this 420-foot-long segment of the historic property located within the APE has been determined to be a noncontributing element of the

**4. Section 4(f) De Minimis Impact Evaluation**

larger National Register property. SHPO concurred with this determination on September 14, 2012 (see Appendix B). There would be no impacts to the Orr Ditch west of Pyramid Way.

**4.4.2 Effects on Historic Architecture**

This section discusses the effects that the proposed project would have on the three properties located within the APE: the Clarence Grant Pierson/Lagomarsino House at 2965 Pyramid Way, the Martin Solorio House at 2975 Pyramid Way, and the Green Brae Terrace District, bounded roughly by Pyramid Way, Gault Way, Probasco Way/1<sup>st</sup> Street, and H Street. The anticipated effects of the project on the three properties are evaluated here, based on the preliminary engineering plans for the Preferred Alternative.

**4.4.3 Effects on 2965 and 2975 Pyramid Way, Sparks**

The proposed intersection improvement would not involve any alterations within the actual physical parcel boundary of either of the two historic properties. The proposed undertaking would consist solely of making roadway and other improvements, including the construction of 5-foot sidewalks, standard bicycle lanes, landscaping, and stormwater best management facilities within the existing roadway intersection corridor and existing state ROW.

Based on the current roadway conditions for Pyramid Way and McCarran Boulevard, the proposed project improvements would not be inconsistent or out of character with the existing project setting, which consists of the intersection of two state routes. The proposed undertaking would not noticeably alter the general project area nor the context or feel of either of these two NRHP-eligible properties.

The proposed undertaking has the potential to introduce visual, atmospheric, and audible elements that could conceivably diminish the integrity of these two historic properties' setting. Air quality analysis conducted for the project indicates that, if implemented, the project would not violate federal, state, or local air standards. Results of noise modeling conducted for the project likewise revealed noise levels would not increase over existing levels at either historic property. There would be no direct impacts from the proposed work associated with this project, though there would be indirect impacts related to increased noise and dust during construction. Slight visual and setting changes to the area would be caused, but these would be considered minor and would not alter the significance of the two properties.

Therefore, the proposed changes are not considered adverse because they do not meet the criteria as defined in 36 CFR 800.5(a)(1). In short, based on the location, current setback, setting, and functional land use category type of the two properties (i.e., residential), together with roadway compatibility features that have been incorporated into the project design, the undertaking would not alter, directly or indirectly, any of the characteristics of either historic property that would qualify it for inclusion in, or eligibility for, the NRHP, or in any other manner diminish or otherwise compromise their integrity. Therefore, there would be no use of the two properties by the proposed project.

#### **4.4.4 Effects on Green Brae Terrace District, Sparks**

The project would involve potential acquisition of 40 properties located in the southeast quadrant formed by the intersection of Pyramid Way and McCarran Boulevard. This quadrant primarily consists of housing originally constructed as part of the Green Brae Terrace subdivision.

Overall, the district would retain a high concentration of residential properties in their original setting, and as a result, Green Brae Terrace would continue to convey a sense of place and time. The character-defining features of the district would remain intact. The planned construction of a landscaped buffer and privacy walls on the western and northern edge of the Green Brae Terrace District within the project limits would generally replace existing, irregular property walls and fences that bound and shield the homes and neighborhood, thereby redefining the western and northern edges of the district with aesthetically consistent landscaping and walls.

The project would only directly affect a small percentage (0.015%) of the houses within the Green Brae Terrace District. A field survey to evaluate the condition/integrity of the entire group of approximately 2,750 houses built as part of the Green Brae Terrace subdivision was not conducted.

Because the core of the district is situated to the south and east of the proposed transportation improvements, the district would continue to have the ability to convey its significance under NRHP Criterion A for its association with community development and the emergence of postwar housing in Sparks with its mid-20<sup>th</sup> century ranch-style homes. Those large areas outside of the direct project area east of Pyramid Way and south of McCarran Boulevard would continue to provide a strong sense of place and time for the district's period of significance (1948-1963).

Of the 40 houses within Green Brae Terrace that would need to be acquired for ROW, the district would continue to be geographically united. Most of the 2,750 houses estimated to have been built as part of the Green Brae Terrace tract development in the 15 years from 1948-1963 would remain intact.

For those properties immediately adjacent to the houses that would be acquired, the residences and grounds would be protected during construction, though some tree branch and root trimming or removal may be necessary. It is not anticipated that temporary construction easements would be required as part of the project. Other project-related features would result in changes to the visual character and setting of the Pyramid Way and McCarran Boulevard intersection that borders the district. These include the proposed 5-foot-wide sidewalks and a landscaped buffer/parkway strip, bicycle lanes, and 6-foot privacy walls, all of which are context-sensitive components of the overall improvements planned as part of the intersection project to benefit the surrounding community.

Within the district, existing street intersections at Pyramid Way and Tyler Way and Pyramid Way and York Way would be maintained at their current locations, with minor adjustments to accommodate the added lanes on Pyramid Way. The existing intersection at Pyramid Way and Gault Way would be closed off at Nelson Way, thereby removing northbound cut-through traffic from Pyramid Way to Gault Way that presently travels through the district to avoid the

#### **4. Section 4(f) De Minimis Impact Evaluation**

congested intersection. Access to the properties east of Pyramid Way on Gault Way would be provided via 4<sup>th</sup> Street.

The views of and from the district would be changed, but the changes would not be substantial because most residents would continue to have similar views of houses and other urban features with the Preferred Alternative. Some residents would have views of the new privacy walls and landscaped buffer/parkway strip between the sidewalks and the traveled way, in addition to houses.

While the property's integrity would slightly diminish with implementation of the Preferred Alternative, the district's overall integrity of feeling and association would remain intact, and the setting would still possess the essential physical features of the district as a whole. Design, materials, and workmanship would be little impacted. For these reasons, FHWA has determined that the Preferred Alternative would result in no adverse effect to the district.

#### **4.5 Proposed Measures to Minimize Harm for the Green Brae Terrace District**

An Agreement among FHWA, SHPO, NDOT, and RTC will be prepared to stipulate additional documentation for the historic district. As discussed in Section 3.5.5, no adverse effect is anticipated to occur to historic properties identified in the APE under the Preferred Alternative; however, the following activity has been proposed to document resources in the APE for the proposed undertaking:

- Prepare a pamphlet, website, interpretive panel, or other educational material focusing on the development and evolution of Green Brae Terrace within the context of local history and architecture of the historic district.
- Conduct an oral interview of a long-time Green Brae Terrace resident.
- Add aesthetic treatments, such as landscaping and privacy walls.
- Retention of as many mature trees as possible..

#### **4.6 Proposed Finding Related to Section 4(f) for the Green Brae Terrace District**

As discussed above, Section 4(f) regulations allow FHWA to determine that certain uses of Section 4(f) lands are *de minimis* or negligible.

An impact may be determined to be *de minimis* if the transportation use of the Section 4(f) resource, including consideration of impact avoidance, minimization, and mitigation or enhancement measures, is so minor in nature that it does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f). Such a finding is conditioned upon:

- The official(s) with jurisdiction over the resource indicating, in writing, that the proposed action, including consideration of the mitigation, will not adversely affect the activities, features, and attributes that are important to the resource;



- The public has been afforded an opportunity (by public notice) to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource; and
- Implementation of the mitigation measures.

When this is the case, an analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete. The official(s) with jurisdiction over the resource will be informed of FHWA's intent to make the *de minimis* impact finding. FHWA has notified SHPO of the proposed *de minimis* finding, and formal concurrence in the finding of "no adverse effect" on the district will be requested after public review and comment on the Draft EIS.

For the proposed Pyramid Way and McCarran Boulevard Intersection Improvement Project, the analysis of effects that may occur from implementation of the Preferred Alternative determined there would be no adverse effects under Section 106 (signifying that the NRHP eligibility status would not change for any of the historic properties). FHWA, in cooperation with NDOT and RTC, has determined the proposed project would have no adverse effect on historic properties in consultation with the SHPO (see Appendix B); therefore, as defined in the regulations, FHWA has determined that the proposed project will result in a Section 4(f) *de minimis* finding.

**4. Section 4(f) De Minimis Impact Evaluation**

---

This page intentionally left blank.

## **5. COORDINATION AND CONSULTATION**

---

### **5.1 Technical Advisory Committee**

As part of the project development process, a TAC was formed. The TAC was comprised of representatives from FHWA, NDOT, RTC, City of Sparks, and Washoe County. The TAC has met regularly from 2006 to the present time to define the project purpose and need, develop and evaluate alternatives, discuss and review traffic analysis, and serve as technical advisors to the project team.

### **5.2 Public and Agency Scoping**

During the early project planning phases, a project initiation/information meeting was held May 9, 2006, at the Wadsworth Masonic Lodge. The information meeting was an “open house” meeting inviting the public to attend at their convenience and to submit comments verbally to a court reporter or in writing. Attendees were given an overview of the project and were asked to identify issues and concerns with traffic operations at the intersection.

Following publication of the NOI in the *Federal Register* on September 4, 2007, RTC initiated the EIS and began the scoping process. An Agency Scoping meeting was held in Sparks, Nevada, on January 13, 2009. The attendees were given an overview of the project and were asked to present their agency’s concerns, special requirements, and information relative to the study process.

As part of the NEPA scoping process, two public information workshops were held. The purpose of the two workshops was to obtain input on the proposed project purpose and need, and receive public comments on project alternatives. The first workshop was held at the Lazy 5 Community Center on April 29, 2008, for the Spanish Springs community. The second workshop was held at the Wadsworth Masonic Lodge near the Pyramid Way and McCarran Boulevard intersection on April 30, 2008.

### **5.3 Public Involvement**

As part of the proposed project’s NEPA public involvement and participating agency coordination plan, a Community Advisory Committee (CAC) was formed. The CAC was comprised of residents living within the project area, local business owners, and other community leaders. The CAC provided the project team with their input on definition of purpose and need and alternatives development, as well as potential environmental impacts. The CAC met on October 18, 2007; January 30, 2008; February 27, 2008; and June 30, 2008.

Meetings with individual stakeholders have been held throughout the project development process to receive their input in project development and address their specific concerns. RTC held a series of meetings with representatives from the Immaculate Conception Catholic Church to address their concerns regarding potential impacts and access to the church property. The Immaculate Conception Catholic Church parishioners community meetings were held on April

## **5. Coordination and Consultation**

28, 2010; May 13, 2010; and July 8, 2010. Numerous informal meetings were also held with various parishioners and residents throughout the project development process.

### **5.4 Participating Agencies**

On May 8, 2009, FHWA, in cooperation with NDOT and RTC, mailed invitations to key agencies with a direct interest in the Pyramid Way and McCarran Boulevard Intersection Improvement Project EIS to participate as Participating Agencies in accordance with 23 U.S.C. Section 139. Participation of the participating agencies was sought throughout all stages of the EIS for technical information, resolution of issues, and identification of specific review and approval requirements. The following agencies participated in the development of the EIS as participating agencies, and they have been involved throughout the project development process and as members of the TAC (Appendix C):

- U.S. Environmental Protection Agency
- Nevada State Historic Preservation Officer
- Washoe County
- City of Sparks

As members of the TAC, participating agencies were involved in the development of the project's purpose and need and the range of alternatives considered. Participating agencies also reviewed technical documents (i.e., *Design Alternatives Report* and *Traffic Report*) and provided feedback to the project team. Coordination with participating agencies will continue through completion of the project.

### **5.5 Public Information Meetings**

As part of the project development process, RTC conducted a series of public information meetings. These public information meetings were in response to controversy regarding potential access restrictions and ROW impacts. All public meetings were an "open house" format, inviting the public to attend at their convenience and to submit comments verbally to a court reporter or in writing. A formal presentation was given, and a question and answer session followed the presentation. Meeting notification was in the *Reno Gazette Journal*, RTC Web site ([www.rtcwashoe.com](http://www.rtcwashoe.com)), and direct mail. Meetings included display boards and handout materials representing project alternatives and development processes, project overview, NEPA procedures, ROW issues, schedules, and photographs.

These meetings were held on March 24, 2010; May 26, 2010; July 27, 2010; December 15, 2010; December 16, 2010; February 23, 2011; and April 20, 2011. All meetings were held at John Ascuaga's Nugget from 5:00 p.m. to 8:00 p.m.

### **5.6 Project Coordination**

During the project development process, there was ongoing coordination with other projects in the region. As an example, the project team met with representatives from the Pyramid Highway and US 395 Connection Project to coordinate traffic analysis, assessment of relocation impacts,



cumulative impacts, cultural resources analysis, and public involvement. Coordination will continue through final design and construction of the proposed project.

FHWA will issue a single Final EIS and Record of Decision document pursuant to Pub. L. 112-141, 126 Stat. 405, Section 1319(b) unless FHWA determines statutory criteria or practicability considerations preclude issuance of the combined document pursuant to Section 1319.

**5. Coordination and Consultation**

---

This page intentionally left blank.

## **6. LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE ENVIRONMENTAL IMPACT STATEMENT WERE SENT**

---

### **Draft EIS Distribution**

#### ***Federal Agencies***

Federal Highway Administration  
Carson City, NV

U.S. Department of Agriculture  
Natural Resources Conservation Service  
Reno, NV

U.S. Department of Agriculture  
Regional Forester  
Ogden, UT

U.S. Department of Agriculture  
Forest Service  
Sparks, NV

U.S. Department of the Interior  
Bureau of Indian Affairs  
Phoenix, AZ

Bureau of Indian Affairs  
Carson City, NV

U.S. Department of the Interior  
U.S. Geological Survey  
Water Resources Division  
Carson City, NV

U.S. Department of the Interior  
Bureau of Land Management  
Reno, NV

U.S. Department of the Interior  
Bureau of Land Management  
Carson City, NV

U.S. Army Corps of Engineers  
Reno, NV

U.S. Army Corps of Engineers  
Sacramento, CA

U.S. Department of the Interior  
National Park Service  
San Francisco, CA

U.S. Department of the Interior  
Bureau of Reclamation  
Carson City, NV

U.S. Department of the Interior  
Regional Environmental Officer  
Pacific Southwest Region  
Oakland, CA

U.S. Department of the Interior  
Regional Director, Region 1  
Fish and Wildlife Service  
Portland, OR

U.S. Department of the Interior  
Fish and Wildlife Service  
Reno, NV

US Geological Survey  
Water Resources Division  
Carson City, NV

Department of Energy  
Las Vegas, NV

Department of Housing and Urban  
Development  
Reno, NV

U.S. Department of Transportation  
Chief, Federal Aviation Administration  
Burlingame, CA

Federal Emergency Management Agency  
Oakland, CA

U.S. Environmental Protection Agency  
Region 9  
San Francisco, CA

***State Agencies***

Department of Motor Vehicles  
Office of Traffic Safety  
Carson City, NV

Nevada Division of Water Resources  
Carson City, NV

State Historic Preservation Office  
Carson City, NV

Nevada Department of Wildlife  
Reno, NV

Nevada Natural Heritage Program  
Department of Conservation and Natural  
Resources  
Carson City, NV

Nevada State Clearinghouse  
Carson City, NV

***Local Agencies***

RTC of Washoe County  
Reno, NV

TRPA  
Stateline, NV

Washoe County Public Works  
Reno, NV

Washoe County Manger  
Reno, NV

Washoe County Community Development  
Reno, NV

Washoe County Commission  
Reno, NV

City of Sparks Mayor  
Sparks, NV

City of Sparks Public Works  
Sparks, NV

City of Sparks Council  
Sparks, NV

Sparks City Manager  
Sparks, NV

City of Sparks Community Development  
Sparks, NV

***Organizations***

NV Energy, Land Department  
Reno, NV

Nevada Bell  
Reno, NV

Southwest Gas, Engineering Department  
Carson City, NV

Sierra Club  
Reno, NV

Nevada Chapter AGC  
Reno, NV

Nevada Environmental Coalition  
Las Vegas, NV

***Library***

Sparks Branch  
Washoe County Library  
Sparks, NV



## **7. LIST OF PREPARERS**

---

### **Federal Highway Administration**

Abdelmoez Abdalla  
Environmental Program Manager  
Nevada Division  
26 years experience  
PhD, Water Quality

Andrew Soderborg  
Field Operations Team Leader  
Nevada Division  
16 years experience  
MS, Civil Engineering

### **Nevada Department of Transportation**

Steve Cooke, P.E.  
Chief, Environmental Services  
28 years experience  
MS, Civil Engineering

Christopher Young, RPA  
Environmental Services Supervisor  
20 years experience  
MA, Anthropology

Daniel Harms, CEM  
Environmental Services  
24 years experience  
BS, Hydrology/Hydrogeology

### **Regional Transportation Commission**

Scott Gibson, P.E.  
Project Manager  
30 years experience  
BS, Civil Engineering

Tom Greco, P.E., F. ASCE  
Senior Transportation Planner  
40 years experience  
AA, Business Management

### **Parsons Transportation Group**

P.D. Kiser, P.E., PTOE  
Project Manager  
37 years experience  
MS, Civil Engineering

Jeff Bingham  
EIS Manager  
36 years experience  
MS, Environmental Studies

Andrea Reeves Engelman  
EIS Coordinator  
12 years experience  
BS, Environmental Resources

M. Jack Sjostrom, P.E.  
Design Manager  
14 years experience  
BS, Civil Engineering

Jon Erb, P.E.  
Design Specialist  
22 years experience  
BS, Civil Engineering

Areg Gharabegian  
Traffic Noise Analysis  
30 years experience  
MS, Mechanical Engineering

Michael Webber  
Traffic Noise Analysis  
21 years experience  
BS, Physiology

Gregory King  
Community Impacts; Historic Properties  
25 years experience  
MA, History

**7. List of Preparers**

Carrie Chasteen  
Historic Properties  
10 years experience  
MA, History

Nasrin Behmanesh, PhD  
Air Quality Analysis  
19 years experience  
PhD, Chemical Engineering

Elvira Gaddi  
Hazardous Waste and Materials  
30 years experience  
MS, Chemical Engineering

Jeff Lomand, RLA  
Visual Assessment  
26 years experience  
MLA, Landscape Architecture

Veronica Seyde  
Water Quality  
25 years experience  
MS, Environmental Studies

Portia Gonzalez  
Floodplain Assessment  
20 years experience  
MS, Civil Engineering

Christopher Espiritu  
Energy  
10 years experience  
BA, Economics and Urban Studies and  
Planning

Lincoln Walker  
Community Impacts and GIS  
6 years experience  
MA, Urban and Regional Planning

Steve Moran  
Graphics  
17 years experience  
AS, Graphic Design

Liz Koos  
Technical Editor  
25 years experience

## 8. REFERENCES

---

- Brown *et al.* 2007. *The Southwestern Naturalist* Volume 52(4):610-616.
- Council on Environmental Quality (CEQ). 1997. *Considering Cumulative Effects under the National Environmental Policy Act*. January.
- Federal Highway Administration (FHWA). 2010. *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (23 CFR Part 772).
- . 2006. Interim Guidance on Air Toxic Analysis in NEPA Documents.
- . 1987. *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (FHWA Technical Advisory T 6640.8A, October 30, 1987).
- Nevada Department of Transportation (NDOT). 2011. *Traffic and Noise Abatement Policy*.
- . 2005. Storm Water Management Program. January 2005.
- . 2006. Storm Water Quality Handbooks, Planning and Design Guide. January.
- . 2006a. Storm Water Quality Handbooks, Construction Site BMPs Manual. January.
- . 2012. *Addendum to the Air Quality Study*. September.
- Nevada Division of Environmental Protection (NDEP). 2011. *Water Quality Monitoring Data Tables*. <http://www.ndep.nv.gov/bwqp/T3.html>
- . 2009. *Nevada's 2006 303(d) Impaired Waters List*. February.
- . 1994. *Truckee River Total Maximum Daily Loads (TMDLs) and Waste Load Allocations (WLAs), Final*. February.
- Parsons. 2012a. *Air Quality Assessment*. September.
- . 2012b. *Design Alternatives Report*. April.
- . 2012c. *Historical Architectural Survey Report*. January.
- . 2012d. *Traffic Report*. April.
- . 2012e. *Traffic Noise Impact Assessment*. June.
- . 2012f. *Finding of Effect*. November.
- . 2011a. *Archaeological Resources*. August.

## **8. References**

---

- . 2011b. *Community Impact Assessment*. December.
- . 2011c. *Floodplains Technical Memorandum*. August.
- . 2011d. *Hazardous Waste and Material Technical Memorandum*. August. (Revised September 2012).
- . 2011e. *Visual Impact Assessment*. October (Revised April 2012).
- . 2011f. *Water Resources Technical Memorandum*. August.
- Property Specialists, Inc. 2011. *Acquisition/Relocation Plan*. July.
- United States Census Bureau. 2000. U.S. Census Data.
- United States Department of Transportation (USDOT). 1992. *Secondary and Cumulative Impact Assessment in the Highway Project Development Process*. April.
- United States Environmental Protection Agency (EPA). 2011. *National Ambient Air Quality Standards*.
- . 2007. Control of Hazardous Air Pollutants from Mobile Sources: Final Rule to Reduce Mobile Source Air Toxics. EOA420-F-07-017. February.
- . 2006. <http://www.epa.gov/air/criteria.html>.
- . 1992. *Guidelines for Modeling Carbon Monoxide from Roadway Intersections*.
- Western Regional Climate Center. 2011. *Local Climate Summaries Data for the Western United States*. <http://www.wrcc.dri.edu/summary/lcdus08.html>.



## **9. INDEX**

---

Air Quality, 3-81	Mobile Source Air Toxics, 3-86, 8-2
Alternatives Eliminated from Further Consideration, 2-2	National Register of Historic Places, 4-3
Alternatives Studied in Detail, 2-7	Noise, 3-3, 3-7
Area of Potential Effects, 3-57	Public Information Meetings, 5-2
Cooperating Agencies, 5-2	Purpose and Need, 1-1
Cultural Resources, 3-56	Safety, 1-7, 6-2
Environmental Justice, 3-33	Scoping, 5-1
Hazardous Waste and Materials, 3-63, 8-2	Section 4(f) Properties, 3-1, 4-1, 4-3, 8-1
Land Use, 3-7, 3-13	Technical Advisory Committee, 5-1
Levels of Service (LOS), 3-94	Water Resources, 3-69, 6-1

**9. Index**

This page intentionally left blank.

**APPENDIX A**  
**PROCEDURES FOR TRAFFIC NOISE**  
**ABATEMENT**





STATE OF NEVADA  
DEPARTMENT OF TRANSPORTATION

TRAFFIC AND CONSTRUCTION NOISE  
ANALYSIS AND ABATEMENT POLICY

April 18, 2011 Issued  
July 13, 2011 Effective

## INTRODUCTION

This document presents the State of Nevada, Department of Transportation (NDOT) *Traffic and Construction Noise Analysis and Abatement Policy* (Policy) for highway traffic and construction noise. It was completed in the spirit of the Federal Highway Administration (FHWA) *Everyday Counts Initiative*.

The Policy defines NDOT's application of the FHWA Noise Standard as contained in 23 Code of Federal Regulations (CFR) Part 772 and current *Highway Traffic Noise: Analysis and Abatement Guidance* (FHWA Noise Guidance). These are incorporated by reference and are attached as Appendices A and B, respectively. Refer to these appendices for additional information on definitions, applicability, traffic noise prediction, analysis of traffic noise impacts, analysis of noise abatement, federal participation, information for local officials, and construction noise.

## PURPOSE

The Policy presents NDOT's program to define and implement 23 CFR 772.

## DEFINITIONS

Definitions are presented in 23 CFR 772.5 and the FHWA Noise Guidance and include terminology used in this Policy. NDOT defined terminology include:

*Acoustical Feasibility*: 5 dB(A)- $L_{eq}(h)$ .

*Approach level*: 1 decibel, A-weighted [dB(A)] 1-hour equivalent sound level [ $L_{eq}(h)$ ] less than the Noise Abatement Criteria (NAC) for Activity Categories A to E when determining a traffic noise impact

*Benefitted Receptor*: The recipient of an abatement measure that receives a noise reduction at or above the minimum threshold of 5 dB(A), but does not exceed the noise reduction design goal.

*Date of Public Knowledge*: The date of approval of the Categorical Exclusion (CE), the Finding of No Significant Impact (FONSI), or the Record of Decision (ROD).

*Noise reduction design goal*: 7 dB(A)- $L_{eq}(h)$ .

*Substantial noise increase*: 15 dB(A)- $L_{eq}(h)$  over existing noise levels.

## APPLICABILITY

The Policy applies to Federal and Federal-aid highway projects as outlined in 23 CFR 772.7 and the FHWA Noise Guidance. NDOT does not support or utilize a Type II noise program. If assistance is needed to evaluate the applicability of the Policy or the FHWA noise standard,

consult with the NDOT Environmental Services Division Chief and the FHWA Nevada Division, Environmental Program Manager.

## TRAFFIC NOISE PREDICTION

The traffic noise prediction is described in 23 CFR 772.9 and the FHWA Noise Guidance. NDOT does not allow the use of noise contour lines. Field measurements shall capture the anticipated worst hourly traffic noise impact. The posted speed limit shall be used to predict highway traffic noise levels.

## ANALYSIS OF TRAFFIC NOISE IMPACTS

The traffic noise impact analysis is described in 23 CFR 772.11 and the FHWA Noise Guidance. NDOT has established the “approach level” to be 1 dB(A) less than the NAC for Activity Categories A to E when determining a traffic noise impact. NDOT has defined the “substantial noise increase” to be 15 dB(A)- $L_{eq}(h)$  (1-hour equivalent sound level) over existing noise levels. The “substantial noise increase” is independent of the absolute noise level. The noise analysis will determine all traffic noise impacts from the project. In addition to the methodology presented in the FHWA Guidance, NDOT further defines the traffic noise analysis as follows.

Receptor locations for highway traffic noise analysis shall typically be at ground level, or first-floor, and at an exterior area where frequent human activity occurs, between the right-of-way line and building. Impacted receptors will be identified or grouped by unique identification numbers. For an Activity Category B receptor, upper floors and balconies will be analyzed if those areas qualify as an exterior area of frequent human use. Activity Category B, multi-family dwelling units, shall be analyzed by identifying exterior areas of frequent human use and ascertaining capacity limits.

NDOT will evaluate eligible Activity Categories C and D areas by utilizing the “equivalent number of residences” method. This shall be completed in the manner of the example below taken from the FHWA *Highway Traffic Noise: Analysis and Abatement Guidance*.

*This approach involves identifying the representative lot size of residential development and dividing the land area of portion of the park that is within the study area by the area of the representative lot size. For example, the typical lot size in a community is 60'x120' or 7,200 square feet (SF). Noise modeling predicts noise impacts from the project to a distance of 350'. A park in the community is adjacent to the project and has 1000' of frontage. The total impacted area of the park is 350,000 (SF). Divide this by the typical lot size of 7,200 SF for an equivalent number of receivers equal to 48.6. The park is representative of 49 receivers.*

Activity Category E will be analyzed in the manner applied to Activity Category B, multi-family residences.

## ANALYSIS OF NOISE ABATEMENT

Analysis of traffic noise abatement is described in 23 CFR 772.13 and the FHWA Noise Guidance. NDOT will primarily consider noise barriers, typically concrete, for traffic noise abatement. Absorptive treatments will not be utilized. NDOT will not consider cost averaging. NDOT does not participate in the FHWA Quiet Pavement Program.

## FEASIBILITY

The feasibility of noise abatement is described in 23 CFR 772.13(d)(1) and the FHWA Noise Guidance. NDOT considers a traffic noise abatement measure that abates at least 5 dB(A) for 75% of the first, or front, row of impacted receptors as acoustically feasible.

Engineering feasibility affecting the final design and placement of sound barriers may be controlled by various factors including: topography, barrier height, access requirements, existing roadways, utilities, drainage, maintenance, other noise sources, safety considerations, or other project specific factors. Engineering feasibility will be evaluated according to the current edition of the American Association of State Highway Transportation Officials (AASHTO) publication "A Policy on Geometric Design of Highways and Streets", (a.k.a. AASHTO Green Book). Sound barrier design requirements are also addressed in project contract documents and per the NDOT Structure Division's *Structures Manual*, 2008 at <http://www.nevadadot.com/uploadedFiles/structuresmanualcover.pdf> or contact the Structural Design Division at 1-775-888-7540.

## REASONABLENESS

Reasonableness is described in 23 CFR 772.13(d)(2) and the FHWA Noise Guidance. Three criteria are used to evaluate the reasonableness of mitigation being considered. The points-of-view of the benefitted property owners and residents, the cost effectiveness of the abatement measure, and the noise reduction design goal. NDOT has defined the traffic noise reduction design goal as 7 dB(A).

Noise barriers will be constructed as modeled and designed unless the benefitted receptors are opposed to their construction. As part of the public involvement process, NDOT will solicit input from all the benefitted receptors. To be considered, responses from benefitted receptors shall be in writing and clearly identify the respondent's status with the property and validate their standing to participate. The responses received shall be evaluated according to the following.

The preferences of benefitted receptors will be weighted as follows:

- Those receiving a 7 dB(A) reduction or greater in projected noise levels shall receive three points.
- Those receiving a 6 dB(A) reduction in projected noise levels shall receive two points.
- Those receiving a 5 dB(A) reduction in projected noise levels shall receive one point.



If opposing views over the traffic noise abatement measure develops between the property owner of a benefitted property and its legal occupant(s), the preference of the property owner will take precedence.

To alter the proposed traffic noise abatement measure, two criteria must be met. First, to initiate reconsideration of the proposed measure, a qualifying response from a majority (50%, plus one [1]) of all the valid identified benefitted receptors must be received. If a response is not received from a valid benefitted receptor, it will be recorded as being in agreement with and supporting the proposed traffic noise abatement measure. Second, using the scoring system above, the tallied results must support any change to the proposed traffic noise abatement measure.

A cost-benefit analysis will be prepared to evaluate abatement measures. A maximum construction cost of \$40,000 (2011 dollars) is allotted per benefitted receptor (i.e., dwelling, equivalent unit) that satisfies Policy criteria. This allowance will be evaluated every five years and compared with construction price indices to derive equivalent adjustments. Adjustments to the allowance will be by approved amendment to the Policy.

### FEDERAL PARTICIPATION

Federal participation is described in 23 CFR 772.15 and the FHWA Noise Guidance.

### INFORMATION FOR LOCAL OFFICIALS

Information for local officials is described in 23 CFR 772.17 and the FHWA Noise Guidance. Local officials will be informed of potential traffic noise impacts to land adjacent to a proposed highway project to protect future noise sensitive land development from becoming incompatible with traffic noise levels. This will be accomplished during the NEPA process and presented on NDOT's website.

After the date of public knowledge, NDOT will be available for analyzing changes in traffic noise impacts, when appropriate. Traffic noise abatement for development adjacent to the highway occurring after this date is the responsibility of local municipalities. Provision for such noise abatement becomes the responsibility of local communities and private developers.

### CONSTRUCTION NOISE

Construction noise is described in 23 CFR 772.19. Procedures to minimize construction noise impacts, while considering traffic impacts, will be addressed on a project-by-project basis. When reasonable and feasible, project traffic noise abatement measures will be constructed as early in the project as possible to provide mitigation from construction noise impacts.



**APPENDIX B**  
**NEVADA STATE HISTORIC**  
**PRESERVATION OFFICER**  
**CORRESPONDENCE**







U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Nevada Division**

March 29, 2012

705 N. Plaza Street, Suite 220  
Carson City, NV 89701  
Phone 775 687-1204  
Fax 775 687-3803

In Reply Refer To:  
HENV-NV

Rebecca Palmer  
Deputy State Historic Preservation Officer  
State Historic Preservation Office  
901 S. Stewart Street, Suite 5004  
Carson City, NV 89701

Subject: The intersection of Pyramid Way (SR 445) and North McCarran Boulevard (SR 650), Sparks, Washoe County, Nevada (project numbers: EA 73299; CM-0191(063)).

Dear Ms. Palmer:

The Regional Transportation Commission of Washoe County (RTC), in cooperation with the Nevada Department of Transportation (NDOT) and the Federal Highway Administration (FHWA) propose improvements to the intersection of Pyramid Way (SR 445) and North McCarran Boulevard (SR 650) in Sparks, Washoe County, Nevada. The project will be federally funded, requiring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. FHWA is requesting your concurrence on the proposed archaeological and historic architectural Areas of Potential Effects (APE), and the determinations of eligibility presented in the accompanying reports.

**Project Description**

Pyramid Way and North McCarran Boulevard are currently two through lanes in each direction. The proposed improvements would widen Pyramid Way to three lanes in each direction from Queen Way to Tyler Way. North McCarran Boulevard will remain two lanes in each direction.

Operational improvements at the Pyramid Way/North McCarran Boulevard intersection consist of additional turning lanes:

- Eastbound N McCarran Boulevard to northbound Pyramid Way (triple left turn lanes);
- Westbound N McCarran Boulevard to southbound Pyramid Way (double left turn lanes);
- Westbound N McCarran Boulevard to northbound Pyramid Way (single right turn lane);
- Northbound Pyramid Way to westbound N McCarran Boulevard (single right turn lane);
- and
- Southbound Pyramid Way to westbound N McCarran Boulevard (single and, as demand exceeds capacity, eventually double right turn lanes).

(See attached illustration, Figure 2-4b reproduced from the early *Draft Environmental Impact Statement Report*)

Widening of Pyramid Way and North McCarran Boulevard would occur on the east and south sides, respectively. To accommodate the additional turning lanes on North McCarran Boulevard, the egress driveway onto North McCarran Boulevard from the commercial center would be moved to the west. To accommodate the additional turning lanes on North McCarran Boulevard

at Pyramid Way, widening would be required on the north and south sides of North McCarran Boulevard between Pyramid Way and 4<sup>th</sup> Street.

The existing Queen Way/Pyramid Way intersection would also be redesigned to improve access to the surrounding neighborhoods by moving and reconfiguring the west leg to provide additional storage for eastbound travelers on Queen Way and reduce the use of Wedekind Road as a bypass. The east leg would remain at its current location and be a right-in/right-out intersection, with a raised median along the right-out lane through the west leg to discourage a three-lane weave and u-turn for drivers that want to go south on Pyramid Way. (See attached illustration, Figure 2-4d, reproduced from the *Draft Environmental Impact Statement Report*.)

Existing street intersections on Pyramid Way at Tyler Way, York Way, Roberta Lane, and Mercy Court would be maintained at their current locations, with minor adjustments to accommodate the added lanes on Pyramid Way. The existing intersection at Gault Way would no longer be maintained because it is in conflict with the proposed right turn lane. Access to the properties east of Pyramid Way on Gault Way would be provided via 4<sup>th</sup> Street. The median at the Emerson Way intersection would be closed to create a right-in, right-out configuration on both the east and west legs of Emerson Way. This is to prevent opposing left turns from Emerson Way across three lanes of traffic on Pyramid Way.

The above description and the attached illustrations describe the final plan for the Pyramid Way/North McCarran Boulevard Intersection Improvement project. If there is any discrepancy between this description and the project description provided in the accompanying archaeological and architectural reports, the description provided in this letter should be considered the definitive description.

#### **Archaeological and Historic Architectural Area of Potential Effect**

This project's APE was drawn to ensure identification of National Register of Historic Places eligible architectural and archaeological resources that may be directly, indirectly, or cumulatively affected by the proposed project.

The APE for archaeological resources is the area of direct physical disturbance resulting from project activities, including temporary staging areas within the right-of-way. Figure 1-2 of the accompanying archaeological report illustrates the archaeological APE.

The APE for historic architectural resources includes parcels immediately adjacent to Pyramid Way and North McCarran Boulevard, parcels bordering vacant lots immediately adjacent to Pyramid Way and North McCarran Boulevard, and parcels that could be visually impacted by the proposed project. Figure 3.3 of the accompanying historic architectural report illustrates the historic architectural APE.

Please note that the architectural APE was established prior to changes in the State Historic Preservation Office (SHPO) guidelines issued in a memo dated August 24, 2011. Rebecca Ossa (SHPO), Carrie Chasteen (Parsons), Andrea Engelman (Parsons) and Elizabeth Dickey (NDOT) met on March 23, 2009 to establish the architectural APE. Ossa verbally approved of the APE at that time. On September 9, 2011, Elizabeth Dickey met with Sara Fogelquist (SHPO) to discuss the APE in relation to the new SHPO guidelines. Ms. Fogelquist informally agreed that the established APE, though more expansive than necessary, would account for the project effects. Ms. Fogelquist also agreed that revising the APE to follow the new guidelines was not required

for this project because the survey work was already complete and most of the report had been prepared.

### Identification of Historic Properties

Parsons prepared two reports in an effort to identify historic properties:

- An archaeological Class III report titled, *Pyramid Way and McCarran Boulevard Intersection Improvement Project, Sparks, Washoe County, Class III (Intensive) Survey*; and
- An historic architectural survey report titled, *Pyramid Way and McCarran Boulevard Intersection Improvement Project, Sparks, Washoe County, Historic Architectural Survey Report*.

No archaeological resources were identified as a result of the Class III survey. The architectural report identified two resources eligible for the National Register of Historic Places (NRHP) within the APE.

**Table of Historic Architectural Resources in APE**

Map ID #	Address	APN	Built	NRHP Eligibility Recommendation by Consultant	NRHP Eligibility Determination by FHWA	Notes
#270	2965 Pyramid Way, Sparks	027-132-09	1924	Eligible C	Eligible C	Lagomarsino House, previously determined eligible. No HRIF completed for this report.
#267	2975 Pyramid Way, Sparks	027-132-12	1930	Eligible A, C	Eligible A, C	New HRIF completed for this report.

FHWA's determinations of eligibility are the same as the consultant's recommendations for NRHP eligibility as presented in the accompanying reports.

A Finding of Effect report will be prepared under separate cover letter.

If you have any questions, please contact Cliff Creger of NDOT at 888-7666 or me at 687-1231.

Sincerely,



Abdelmoez A. Abdalla  
Environmental Program Manager

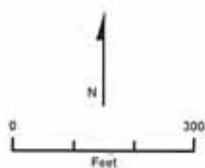
Enclosures: Historic Architectural Survey Report and Photos,  
Class III Survey Report for Archaeological Resources  
Historic Resource Inventory Forms  
Figure 2-4b and Figure 2-4d  
CD

cc: C. Cliff Creger, NDOT Chief Archaeologist  
Andrew Soderborg, FHWA





Source: Parsons 2011



#### LEGEND

- Existing Right-of-way
- - - Proposed Right-of-way
- Proposed Fill Line
- Proposed Cut Line
- Proposed Roadway
- Match Line

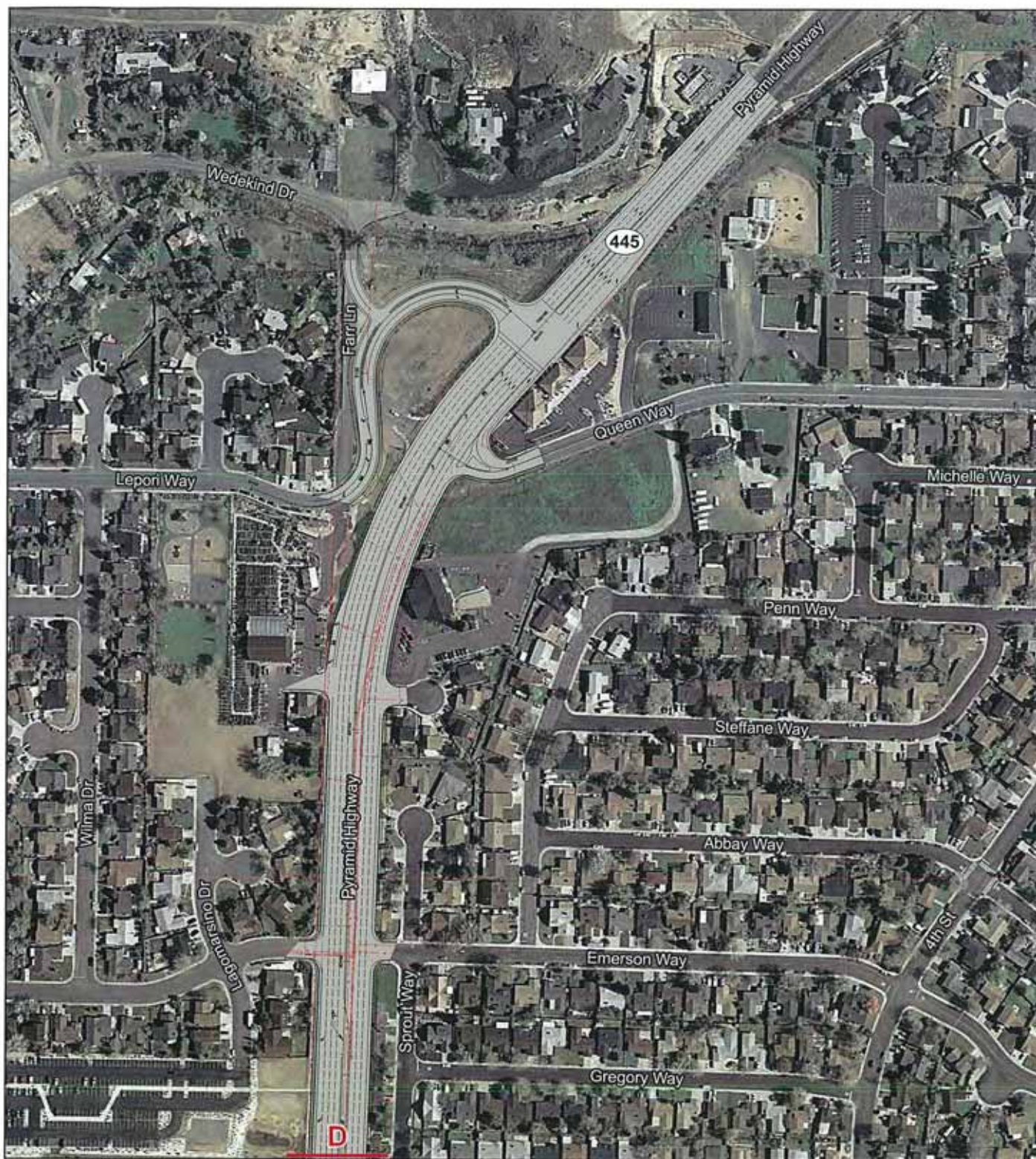


Pyramid Way and McCarran Boulevard  
Intersection Improvement Project

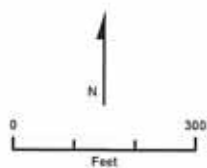
**Modified Expanded  
At Grade Intersection**

Figure 2-4b





Source: Parsons 2011



#### LEGEND

- Existing Right-of-way
- - - Proposed Right-of-way
- Proposed Fill Line
- Proposed Cut Line
- Proposed Roadway
- Match Line



Pyramid Way and McCarran Boulevard  
Intersection Improvement Project

**Modified Expanded  
At Grade Intersection**

Figure 2-4d



LEO M. DROZDOFF, P.E.  
*Director*  
Department of Conservation and  
Natural Resources

BRIAN SANDOVAL  
*Governor*  
STATE OF NEVADA

Address Reply to:  
901 S. Stewart Street, Suite 5004  
Carson City, NV 89701-5248  
Phone: (775) 684-3448  
Fax: (775) 684-3442

RONALD M. JAMES  
*State Historic Preservation Officer*



[www.nvshpo.org](http://www.nvshpo.org)

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
STATE HISTORIC PRESERVATION OFFICE

April 27, 2012

Abdelmoez Abdalla, Environmental Program Manager  
US Department of Transportation  
Federal Highway Administration  
705 North Plaza Street, Suite 220  
Carson City, Nevada 89701

Re: Pyramid Way and McCarran Boulevard Intersection Improvement Project, Sparks, Washoe County, Nevada

- o Historic Architectural Survey Report
- o Archaeological Survey Report

Federal Project No: CM-0191-(063)  
NDOT Project No: EA 73299  
SHPO Undertaking No: 2010-0873  
SHPO Report No: 8252 (Architecture); 8257 (Archaeology)

Dear Mr. Abdalla,

The Nevada State Historic Preservation Office (SHPO) has initiated review of the above referenced reports for the subject undertaking in compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. Based on the information received in correspondence from FHWA dated and received April 27, 2012, the project consists of the widening of McCarran Boulevard between approximately Queen Way and Tyler Way in Sparks, Washoe County, Nevada.

In electronic correspondence from SHPO to NDOT (see attached email dated 4.9.12), SHPO identified deficiencies within the architectural component of the above referenced report. As a follow-up to the email, SHPO and NDOT staff met to on April 25<sup>th</sup> to discuss the project and the deficiencies. SHPO and NDOT agreed to a list of action items and SHPO awaits the necessary information.

Not present at the 4.25.12 meeting was Jessica Axsom, SHPO archaeologist. As such, a discussion regarding the Orr Ditch was postponed pending Ms. Axsom's availability.

Abdalla  
April 27, 2012  
Page 2

### **Architectural Resources**

At this time, SHPO cannot complete it's the review until the necessary information is received. However, SHPO will continue to informally review the report so as to complete the review in a timely manner once the additional information is received. The SHPO is available to further discuss the survey and report.

### **Archaeological Resources**

This cultural resource inventory report was completed following an intensive archaeological and historic inventory of the project area. The SHPO concurs with the Federal Highway Administration's (FHWA) determination that no historic properties were found as a result of this effort.

The SHPO reminds the FHWA that the agency must consult with affected members of the public and representatives of organizations that have a demonstrated interest in properties of cultural significance that could be affected by the undertaking (36 CFR Part 800.4.c.5.). What efforts have been made to provide the public and these organizations with an opportunity to comment on this undertaking?

If you have questions regarding the architectural contents of this correspondence, please contact Sara Fogelquist, Architectural Historian, at 775-684-3427 or [sfogelquist@shpo.nv.gov](mailto:sfogelquist@shpo.nv.gov) or Jessica Axsom, Archaeologist, at 775-684-3445 or [jaxsom@shpo.nv.gov](mailto:jaxsom@shpo.nv.gov).

Sincerely,



Rebecca L. Palmer  
Deputy State Historic Preservation Officer

cc: C. Cliff Creger, NDOT



**Sara Fogelquist**

---

**From:** Rebecca Palmer  
**Sent:** Thursday, April 12, 2012 7:57 AM  
**To:** Creger, Charles C; Abdelmoez.Abdalla@dot.gov  
**Cc:** Elyse Jolly; Sara Fogelquist; Jessica Axsom  
**Subject:** RE: Pre-review

Dear Cliff,

Thanks for any assistance you and Liz can provide.

Rebecca Lynn Palmer  
Deputy Historic Preservation Officer  
901 South Stewart Street, Suite 5004  
Carson City NV 89701  
Phone (775) 684-3443  
Fax (775) 684-3442

Please note, my email is [rlpalmer@shpo.nv.gov](mailto:rlpalmer@shpo.nv.gov)

---

**From:** Creger, Charles C [<mailto:CCreger@dot.state.nv.us>]  
**Sent:** Thursday, April 12, 2012 7:51 AM  
**To:** Rebecca Palmer; [Abdelmoez.Abdalla@dot.gov](mailto:Abdelmoez.Abdalla@dot.gov)  
**Cc:** Elyse Jolly; Sara Fogelquist; Jessica Axsom  
**Subject:** RE: Pre-review

Dear Rebeca:

Thank you for the heads up on this. I will look this over with Liz when she returns.

Sincerely,

C. Cliff Creger  
Chief Archaeologist  
Nevada Department of Transportation  
1263 S. Stewart St.  
Carson City, Nv 89712  
(775) 888-7666  
[ccreger@dot.state.nv.us](mailto:ccreger@dot.state.nv.us)

---

**From:** Rebecca Palmer [<mailto:rlpalmer@shpo.nv.gov>]  
**Sent:** Monday, April 09, 2012 3:39 PM  
**To:** Creger, Charles C; 'Abdelmoez.Abdalla@dot.gov'  
**Cc:** Elyse Jolly; Sara Fogelquist; Jessica Axsom  
**Subject:** FW: Pre-review

Cliff,

Just an FYI.

In this office, we have a process of pre-review for all inventory reports received for Section 106 compliance. This quality control review is conducted by our database quality control reviewer, Elyse Jolly. She has completed a sample review of the architectural inventory report and HRIF's from the Pyramid Intersection Project. I want to bring to your attention a number of deficiencies found during the preliminary screen of the document so that this important undertaking could continue to move forward in an expeditious fashion. This review was conducted prior to our formal review and our formal comments will be forthcoming.

1. A USGS map has not been submitted for the architecture portion of this project. Please submit a 7.5 minute, USGS map at 1:24,000 scale of the overall project area. This is required on page 12 of the 2004 architecture guidelines.
2. The maps that were submitted for the HRIFs are not sufficient. Please submit a USGS, 7.5 minute map for each resource.
3. Per page 12 of the 2004 architecture guidelines, 2 photographs are required to completely document each resource. Unfortunately, most of the sampled HRIFs only contained one picture. Please submit two photographs for each HRIF for the document to meet professional standards.
4. A binder with black and white photographs and negatives was included with the submission. However, there is no clear purpose for these photos. Are they supposed to be interwoven with the HRIFs to meet the 2004 guideline requirement of two photographs? If so, then it is recommended that the consultants be tasked to extract these photos from the binder (where individual resources are not clearly identified) and place them into the appropriate HRIF. Their current presentation (in sleeves placed back to back) makes it very time consuming for this office to identify what properties were documented. If they can be used to supplement the HRIF someone would need to do this work as our staff doesn't have the time to complete this task and move the undertaking forward expeditiously.
5. SHPO resource numbers were not requested before the submission of this project. We understand that is was likely initiated prior to August, 2011. Since they have been in effect since August of 2011, and due to project size, please request SHPO resource numbers for architectural resources in the future.
6. Please send an electronic version of the list with the APNs, Address, etc to speed our review.

Rebecca Lynn Palmer  
Deputy Historic Preservation Officer  
901 South Stewart Street, Suite 5004  
Carson City NV 89701  
Phone (775) 684-3443  
Fax (775) 684-3442

Please note, my email is [rlpalmer@shpo.nv.gov](mailto:rlpalmer@shpo.nv.gov)

---

**From:** Elyse Jolly  
**Sent:** Monday, April 09, 2012 1:29 PM  
**To:** Rebecca Palmer; Sara Fogelquist; Jessica Axsom  
**Subject:** Pre-review

Hi Rebecca,

Here are the problems associated with 8252. I have also included a copy of the old guidelines for reference.

Thanks,  
Elyse

Elyse Jolly  
Review and Compliance Archaeologist and CLG Coordinator

Nevada State Historic Preservation Office  
901 S. Stewart St. Ste 5004  
Carson City, NV 89701  
775-684-3450

---

*This communication, including any attachments, may contain confidential information and is intended only for the individual or entity to whom it is addressed. Any review, dissemination or copying of this communication by anyone other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and delete all copies of the original message.*



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Nevada Division**

August 17, 2012

705 N. Plaza Street, Suite 220  
Carson City, NV 89701  
Phone 775 687-1204  
Fax 775 687-3803

In Reply Refer To:  
HENV-NV

Ms. Rebecca Palmer  
Deputy State Historic Preservation Officer  
Nevada State Historic Preservation Office  
901 S. Stewart Street, Suite 5004  
Carson City, Nevada 89701-4285

Subject: Pyramid Way and McCarran Boulevard Intersection Improvement Project, Sparks,  
Washoe County, Nevada  
Federal Project #: CM-0191-(063); NDOT #: EA 73299;  
NDOT Cultural Resource#: WA11-024; SHPO Undertaking#: 2010-0873

Dear Ms. Palmer:

The Federal Highway Administration (FHWA) submitted documentation in support of the Section 106 process for the Pyramid Way and McCarran Boulevard Intersection Improvement Project, Sparks, Washoe County, to the State Historic Preservation Office (SHPO) on March 29, 2012. Based on comments received from your office, enclosed is an addendum to the originally submitted Historic Architecture Survey Report as well as an addendum to the originally submitted Archaeology Report. FHWA requests that you review the additional information and concur on FHWA's proposed area of potential effect (APE) and determinations of eligibility.

#### **Architectural History Report**

The SHPO responded to FHWA's March 29, 2012 submission in an e-mail from you to Cliff Creger (NDOT Chief Archaeologist) dated April 9, 2012. The e-mail identified deficiencies in the architectural history portion of the submission and requested additional information, including USGS topographic maps at a 1:24000 scale, two photographs per Historic Resource Inventory Form (HRIF), and an electronic spreadsheet of property information for resources in the APE. The e-mail also noted that properties had not been assigned SHPO's Resource ID numbers, and that a binder of black & white photographs and negatives was submitted with no clear purpose.

A meeting to discuss the Section 106 submission was held on April 25, 2012. Representatives from SHPO, NDOT, and Parsons (consultant) attended the meeting. At the meeting, the SHPO requested additional historic context to support the National Register of Historic Places (NRHP) evaluation of architectural resources. Seventy-four architectural resources in the APE were evaluated as Not Eligible because they were less than 50 years old. The SHPO requested that



these properties be re-evaluated based on their integrity and significance, as if they were 50 years old.

Suzan Slaughter (NDOT), Elizabeth Dickey (NDOT), Jessica Axsom (SHPO) and Sara Fogelquist (SHPO) met on May 16, 2012 to discuss how the revisions to the original report would be submitted. They agreed to submit the eligibility revisions for the 74 properties that were less than 50 years old on an Architectural Resource Assessment (ARA) Update/Short Form and the additional context as an addendum to the original report.

SHPO's comments and requests from the April 9, 2012 e-mail and the April 25, 2012 meeting have been addressed in the attached document, *Pyramid Way and McCarran Boulevard Intersection Improvement Project, Sparks, Washoe County – Addendum to Historical Architecture Survey Report February 2012*, prepared by Greg King (Parsons Architectural Historian) and Andrea Reeves Engelman (Parsons Project Manager). The addendum includes an expanded historic context for mid-century subdivisions in Reno.

The consultant prepared an ARA Update/Short Form for the 74 resources that were less than 50 years old. The ARA Update/Short Form includes a revised justification for eligibility that addresses the resources' integrity and significance. The consultant also prepared a topographic map for inclusion with the HRIFS.

#### **Archaeology Report**

In a letter from the SHPO to FHWA dated April 27, 2012, the SHPO concurred with FHWA's determination that there were no NRHP archaeological properties within the Pyramid Way and McCarran Boulevard Intersection Improvement Project APE. Subsequently, a segment of the NRHP eligible Orr Ditch (26WA5352) was identified within the APE. The document, *Pyramid Way and McCarran Boulevard Intersection Improvement Project, Sparks, Washoe County - Addendum to Archaeological Resources Class III (intensive) Survey Report August 2011*, is enclosed, along with an updated IMACS site form for the segment. The segment of the Orr Ditch located to the east of Pyramid Way was determined to be a non-contributing segment because of alterations that diminish its integrity (culvert expansion and concrete lining). The segment of the Orr Ditch located to the West of Pyramid Way was determined to be a contributor.

If you have any questions, please contact Cliff Creger of NDOT at 888-7666 or me at 687-1231.

Sincerely,



Abdelmoez A. Abdalla  
Environmental Program Manager

Enclosures

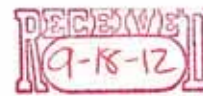
cc: C. Cliff Creger, NDOT

LEO M. DROZDOFF, P.E.  
*Director*  
Department of Conservation and  
Natural Resources

RONALD M. JAMES  
*State Historic Preservation Officer*

BRIAN SANDOVAL  
*Governor*

STATE OF NEVADA



Address Reply to:  
901 S. Stewart Street, Suite 5004  
Carson City, NV 89701-5248  
Phone: (775) 684-3448  
Fax: (775) 684-3442

[www.nvshpo.org](http://www.nvshpo.org)

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
**STATE HISTORIC PRESERVATION OFFICE**

September 14, 2012

Abdelmoez Abdalla, Environmental Program Manager  
US Department of Transportation  
Federal Highway Administration  
705 North Plaza Street, Suite 220  
Carson City, Nevada 89701

Re: Addendum to Historical Architectural Survey Report  
Pyramid Way and McCarran Boulevard Intersection Improvement Project, Sparks, Washoe  
County, Nevada  
Federal Project No: CM-0191-(063)  
NDOT Project No: EA 73299  
SHPO Undertaking No: 2010-0873, 8796

Dear Mr. Abdalla,

Thank you for the additional information provided in the form of an addendum. The Nevada State Historic Preservation Office (SHPO) has initiated review of the above referenced reports for subject undertaking for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. Based on the information received in correspondence from FHWA dated and received August 17, 2012, the project consists of the widening of McCarran Boulevard between approximately Queen Way and Tyler Way in Sparks, Washoe County, Nevada.

The above referenced project was initiated under the old Nevada Section 106 Architectural Inventory and Survey Guidelines (2004 with 2011 Memorandum), utilizing the Historic Resource Inventory Forms (HRIFs) rather than the 2012 Guidelines and instead of the Architectural Resource Assessment (ARAs). As such, the SHPO has reviewed this project under the old guidelines.

**Archaeological Resources**

Within the Area of Potential Effect (APE) for the above-mentioned undertaking two segments of the historic property known as the Orr Ditch (26WA5352) were recorded. This historic property is eligible for the National Register of Historic Places under the Secretary's criteria A, B, and C.



The SHPO concurs with FHWA's and NDOT's determination that the segment of 26WA5352 located east of Pyramid Highway, which is 420 feet long by 20 feet wide, is non-contributing to the overall National Register eligibility of this historic property due to loss of integrity.

The SHPO concurs with FHWA's and NDOT's determination that the segment of 26WA5352 located west of Pyramid Highway, which is 580 feet long by 20 feet wide, contributes to the National Register eligibility of this property as a whole.

#### **Area of Potential Effect (APE)**

The SHPO concurs with the proposed APE as defined on page 3 of the Historical Architectural Survey Report and as illustrated on Figure 3.3. The SHPO notes that when the project was initiated, the APE was established by parcel rather than by buffer.

#### **Architectural History Report—Addendum**

The items below correspond with the numbers in the Addendum.

#### **II.**

**1. Regarding USGS maps:**

Thank you.

**2. Regarding maps for the HRIFs**

Thank you.

Per the August 2011 Memo, all maps must be submitted on continuation sheets with a completed header, including name or address location, section number and page number. Not only are the submitted maps not on continuation sheets, they were submitted without any identifier such as an arrow (to indicate which resource corresponds with the individual HRIF) or a key (to connect map resource number with SHPO resource number or even address.) Rather than reprinting the maps, please provide labels for each map to identify specific resources.

**3. Regarding photograph requirements for the HRIFs:**

As initially requested by SHPO, please provide a justification in each HRIF for the limited number of photographs. Although this information is included in the Addendum, the Addendum will be separate from the individual HRIFs once they are incorporated into the database. Rather than reprinting the HRIFs, please provide labels to justify why they photos do not meet the minimum requirements.

**4. Regarding BW Prints and negatives:**

Thank you.

**5. Regarding SHPO Resource Numbers:**

Thank you.

**6. Regarding electronic resource information.**

Abdalla

September 14, 2012

Page 3

Thank you.

III.

Regarding the 74 properties less than 50 years of age and the updated information.

Thank you.

Regarding the additional historic context:

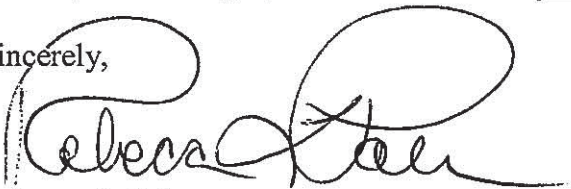
Thank you for the additional information. The SHPO notes that there are missing elements within the context. For example,

- A discussion of required aspects of integrity for the historic subdivisions within the Area of Potential Effects.
- The consideration of the Lepori Ranch parcels as a district.

In order to move this project forward in an expeditious manner, the SHPO suggests meeting in person to resolve these deficiencies.

If you have questions regarding the architectural contents of this correspondence, please contact Sara Fogelquist, Architectural Historian, at 775-684-3427 or [sfogelquist@shpo.nv.gov](mailto:sfogelquist@shpo.nv.gov) or Jessica Axsom, Archaeologist, at 775-684-3445 or [jaxsom@shpo.nv.gov](mailto:jaxsom@shpo.nv.gov).

Sincerely,



Rebecca L. Palmer  
Deputy State Historic Preservation Officer

cc: C. Cliff Creger, NDOT





U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Nevada Division**

December 3, 2012

705 N. Plaza Street, Suite 220  
Carson City, NV 89701  
Phone 775 687-1204  
Fax 775 687-3803

In Reply Refer To:  
HENV-NV

Rebecca Palmer  
Deputy State Historic Preservation Office  
901 S. Stewart Street, Suite 5004  
Carson City, Nevada 89701

Subject: Pyramid Way and McCarran Boulevard Intersection Improvement Project, Sparks,  
Washoe County, Nevada

SHPO Undertaking #: 2010-0873, 8796; NDOT Cultural Resource: WA11-024

Dear Ms. Palmer:

The Regional Transportation Commission of Washoe County (RTC), in cooperation with the Nevada Department of Transportation (NDOT), and the Federal Highway Administration (FHWA) propose improvements to the intersection of Pyramid Way (SR 445) and North McCarran Boulevard (SR 650) in Sparks, Washoe County, Nevada. FHWA requests concurrence from the State Historic Preservation Office (SHPO) on determinations of eligibility for properties in the project's Area of Potential Effect (APE).

**Background**

FHWA requested concurrence on determinations of eligibility to the National Register of Historic Places (NRHP) in a letter dated March 29, 2012. SHPO was unable to concur on the determinations of eligibility at that time and requested additional information. FHWA submitted the additional information and requested SHPO's concurrence on determinations of eligibility in a letter dated August 17, 2012. SHPO responded in a letter dated September 14, 2012 that they concurred on the proposed APE and FHWA's determination of eligibility for two segments of the Orr Ditch (26WA5352). However, SHPO requested additional information and suggested a meeting in person to move the Section 106 process forward.

Representatives from FHWA, NDOT, SHPO, and Parsons met on October 4, 2012. At that meeting, SHPO explained that they felt the Greenbrae Terrace Subdivision, which FHWA had determined to be not eligible for the NRHP, should be treated as an eligible historic district. FHWA agreed to treat the property as a historic district for Section 106 purposes.

Representatives from NDOT, SHPO, Parsons and RTC met again on November 5, 2012. At that meeting, NDOT inquired into the status of the eligibility review for properties in the APE that

SHPO had not commented on or concurred on. SHPO staff stated that there was no issue with the determination of eligibility for these properties and recommended submitting a letter requesting concurrence on eligibility again to document that FHWA had agreed to treat the Greenbrae Terrace Subdivision as a historic district.

#### **Request for Concurrence on Eligibility**

SHPO has previously concurred on the NRHP eligibility for the following properties in the APE:

<b>SHPO Resource ID # or Trinomial</b>	<b>Name/Address</b>	<b>NRHP Status</b>
26WA5352	Orr Ditch Segment located east of Pyramid Highway	Non-contributing to NRHP eligible Orr Ditch
26WA5352	Orr Ditch Segment located west of Pyramid Hwy	Contributing to NRHP eligible Orr Ditch
B8165	2965 Pyramid Way	SHPO previously concurred this property was eligible

FHWA requests SHPO concurrence on the determinations of eligibility for the following properties in the Pyramid-McCarran Intersection Project APE that are located at the Greenbrae Historic District:

	<b>SHPO Resource ID #</b>	<b>Address</b>	<b>FHWA NRHP Eligibility Determination</b>	<b>Criteria</b>
1	B11978	560 Queen Way	Not Eligible	
2	B11979	620 Queen Way	Not Eligible	
3	B11980	5745 Wedekind Road	Not Eligible	
4	B11981	2779 11th Street	Not Eligible	
5	B11982	2770 14th Street	Not Eligible	
6	B11983	2779 14th Street	Not Eligible	
7	B11984	2575 4th Street	Treat as contributor to Greenbrae District	A
8	B11985	2755 4th Street	Treat as contributor to Greenbrae District	A
9	B11986	2915 4th Street	Treat as contributor to Greenbrae District	A
10	B11987	2920 4th Street	Treat as contributor to Greenbrae District	A
11	B11988	3405 Dawn Circle	Not Eligible	
12	B11989	3425 Dawn Circle	Not Eligible	
13	B11990	730 Emerson Way	Not Eligible	
14	B11991	765 Emerson Way	Not Eligible	
15	B11992	780 Emerson Way	Not Eligible	



16	B11993	389 Gault Way	Treat as contributor to Greenbrae District	A
	<b>SHPO Resource ID #</b>	<b>Address</b>	<b>FHWA NRHP Eligibility Determination</b>	<b>Criteria</b>
17	B11994	430 Gault Way	Treat as contributor to Greenbrae District	A
18	B11995	460 Gault Way	Treat as contributor to Greenbrae District	A
19	B11996	500 Gault Way	Treat as contributor to Greenbrae District	A
20	B11997	510 Gault Way	Treat as contributor to Greenbrae District	A
21	B11998	530 Gault Way	Treat as contributor to Greenbrae District	A
22	B11999	555 Gault Way	Treat as contributor to Greenbrae District	A
23	B12000	560 Gault Way	Treat as contributor to Greenbrae District	A
24	B12001	600 Gault Way	Treat as contributor to Greenbrae District	A
25	B12002	605 Gault Way	Treat as contributor to Greenbrae District	A
26	B12003	610 Gault Way	Treat as contributor to Greenbrae District	A
27	B12004	630 Gault Way	Treat as contributor to Greenbrae District	A
28	B12005	655 Gault Way	Treat as contributor to Greenbrae District	A
29	B12006	660 Gault Way	Treat as contributor to Greenbrae District	A
30	B12007	700 Gault Way	Treat as contributor to Greenbrae District	A
31	B12008	705 Gault Way	Treat as contributor to Greenbrae District	A
32	B12009	710 Gault Way	Treat as contributor to Greenbrae District	A
33	B12010	755 Gault Way	Treat as contributor to Greenbrae District	A
34	B12011	785 Gault Way	Treat as contributor to Greenbrae District	A

35	B12012	1050 Gault Way	Not Eligible	
36	B12013	1070 Gault Way	Not Eligible	
37	B12014	1091 Gault Way	Not Eligible	
	<b>SHPO Resource ID #</b>	<b>Address</b>	<b>FHWA NRHP Eligibility Determination</b>	<b>Criteria</b>
38	B12015	1100 Gault Way	Not Eligible	
39	B12016	1115 Gault Way	Not Eligible	
40	B12017	1125 Gault Way	Not Eligible	
41	B12018	1140 Gault Way	Not Eligible	
42	B12019	1145 Gault Way	Not Eligible	
43	B12020	1165 Gault Way	Not Eligible	
44	B12021	1170 Gault Way	Not Eligible	
45	B12022	1185 Gault Way	Not Eligible	
46	B12023	1200 Gault Way	Not Eligible	
47	B12024	1220 Gault Way	Not Eligible	
48	B12025	1225 Gault Way	Not Eligible	
49	B12026	1240 Gault Way	Not Eligible	
50	B12027	1245 Gault Way	Not Eligible	
51	B12028	1250 Gault Way	Not Eligible	
52	B12029	1265 Gault Way	Not Eligible	
53	B12030	1280 Gault Way	Not Eligible	
54	B12031	1285 Gault Way	Not Eligible	
55	B12032	1300 Gault Way	Not Eligible	
56	B12033	1305 Gault Way	Not Eligible	
57	B12034	1320 Gault Way	Not Eligible	
58	B12035	1325 Gault Way	Not Eligible	
59	B12036	1340 Gault Way	Not Eligible	
60	B12037	1345 Gault Way	Not Eligible	
61	B12038	1360 Gault Way	Not Eligible	
62	B12039	1365 Gault Way	Not Eligible	
63	B12040	1380 Gault Way	Not Eligible	
64	B12041	1385 Gault Way	Not Eligible	
65	B12042	1400 Gault Way	Not Eligible	
66	B12043	1460 Gault Way	Not Eligible	
67	B12044	1465 Gault Way	Not Eligible	
68	B12045	760 Gregory Way	Not Eligible	
69	B12046	765 Gregory Way	Not Eligible	
70	B12047	780 Gregory Way	Not Eligible	
71	B12048	3430 Gwynelle Court	Not Eligible	
72	B12049	380 Lenwood Drive	Not Eligible	



73	B12050	385 Lenwood Drive	Not Eligible	
74	B12051	405 Lenwood Drive	Not Eligible	
75	B12052	410 Lenwood Drive	Not Eligible	
76	B12053	430 Lenwood Drive	Not Eligible	
	<b>SHPO Resource ID #</b>	<b>Address</b>	<b>FHWA NRHP Eligibility Determination</b>	<b>Criteria</b>
77	B12054	435 Lenwood Drive	Not Eligible	
78	B12055	460 Lenwood Drive	Not Eligible	
79	B12056	465 Lenwood Drive	Not Eligible	
80	B12057	500 Lenwood Drive	Not Eligible	
81	B12058	505 Lenwood Drive	Not Eligible	
82	B12059	510 Lenwood Drive	Not Eligible	
83	B12060	515 Lenwood Drive	Not Eligible	
84	B12061	530 Lenwood Drive	Not Eligible	
85	B12062	535 Lenwood Drive	Not Eligible	
86	B12063	560 Lenwood Drive	Not Eligible	
87	B12064	565 Lenwood Drive	Not Eligible	
88	B12065	590 Lenwood Drive	Not Eligible	
89	B12066	595 Lenwood Drive	Not Eligible	
90	B12067	620 Lenwood Drive	Not Eligible	
91	B12068	625 Lenwood Drive	Not Eligible	
92	B12069	650 Lenwood Drive	Not Eligible	
93	B12070	655 Lenwood Drive	Not Eligible	
94	B12071	680 Lenwood Drive	Not Eligible	
95	B12072	685 Lenwood Drive	Not Eligible	
96	B12073	710 Lenwood Drive	Not Eligible	
97	B12074	715 Lenwood Drive	Not Eligible	
98	B12075	730 Lenwood Drive	Not Eligible	
99	B12076	735 Lenwood Drive	Not Eligible	
100	B12077	760 Lenwood Drive	Not Eligible	
101	B12078	765 Lenwood Drive	Not Eligible	
102	B12079	785 Lenwood Drive	Not Eligible	
103	B12080	795 Lenwood Drive	Not Eligible	
104	B12081	3235 Montecito Drive	Not Eligible	
105	B12082	3265 Montecito Drive	Not Eligible	
106	B12083	3285 Montecito Drive	Not Eligible	
107	B12084	3295 Montecito Drive	Not Eligible	
108	B12085	2140 Nelson Way	Treat as contributor to Greenbrae District	A
109	B12086	2165 Nelson Way	Treat as contributor to Greenbrae District	A
110	B12087	2180 Nelson Way	Treat as contributor to Greenbrae District	A

111	B12088	2181 Nelson Way	Treat as contributor to Greenbrae District	A
112	B12089	2195 Nelson Way	Treat as contributor to Greenbrae District	A
	<b>SHPO Resource ID #</b>	<b>Address</b>	<b>FHWA NRHP Eligibility Determination</b>	<b>Criteria</b>
113	B12090	2220 Nelson Way	Treat as contributor to Greenbrae District	A
114	B12091	2225 Nelson Way	Treat as contributor to Greenbrae District	A
115	B12092	2255 Nelson Way	Treat as contributor to Greenbrae District	A
116	B12093	2270 Nelson Way	Treat as contributor to Greenbrae District	A
117	B12094	2275 Nelson Way	Treat as contributor to Greenbrae District	A
118	B12095	2295 Nelson Way	Treat as contributor to Greenbrae District	A
119	B12096	2300 Nelson Way	Treat as contributor to Greenbrae District	A
120	B12097	2305 Nelson Way	Treat as contributor to Greenbrae District	A
121	B12098	2365 Nelson Way	Treat as contributor to Greenbrae District	A
122	B12099	2390 Nelson Way	Treat as contributor to Greenbrae District	A
123	B12100	2455 Nelson Way	Treat as contributor to Greenbrae District	A
124	B12101	2460 Nelson Way	Treat as contributor to Greenbrae District	A
125	B12102	2475 Nelson Way	Treat as contributor to Greenbrae District	A
126	B12103	2480 Nelson Way	Treat as contributor to Greenbrae District	A
127	B12104	2515 Nelson Way	Treat as contributor to Greenbrae District	A
128	B12105	2520 Nelson Way	Treat as contributor to Greenbrae District	A
129	B12106	2535 Nelson Way	Treat as contributor to Greenbrae District	A

130	B12107	2540 Nelson Way	Treat as contributor to Greenbrae District	A
131	B12108	2555 Nelson Way	Treat as contributor to Greenbrae District	A
	<b>SHPO Resource ID #</b>	<b>Address</b>	<b>FHWA NRHP Eligibility Determination</b>	<b>Criteria</b>
132	B12109	2560 Nelson Way	Treat as contributor to Greenbrae District	A
133	B12110	2575 Nelson Way	Treat as contributor to Greenbrae District	A
134	B12111	2580 Nelson Way	Treat as contributor to Greenbrae District	A
135	B12112	2595 Nelson Way	Treat as contributor to Greenbrae District	A
136	B12113	2600 Nelson Way	Treat as contributor to Greenbrae District	A
137	B12114	2635 Nelson Way	Treat as contributor to Greenbrae District	A
138	B12115	2640 Nelson Way	Treat as contributor to Greenbrae District	A
139	B12116	2675 Nelson Way	Treat as contributor to Greenbrae District	A
140	B12117	2680 Nelson Way	Treat as contributor to Greenbrae District	A
141	B12118	2685 Nelson Way	Treat as contributor to Greenbrae District	A
142	B12119	2690 Nelson Way	Treat as contributor to Greenbrae District	A
143	B12120	2695 Nelson Way	Treat as contributor to Greenbrae District	A
144	B12121	2700 Nelson Way	Treat as contributor to Greenbrae District	A
145	B12122	2735 Nelson Way	Treat as contributor to Greenbrae District	A
146	B12123	2740 Nelson Way	Treat as contributor to Greenbrae District	A
147	B12124	2755 Nelson Way	Treat as contributor to Greenbrae District	A
148	B12125	2760 Nelson Way	Treat as contributor to Greenbrae District	A



149	B12126	2775 Nelson Way	Treat as contributor to Greenbrae District	A
150	B12127	2780 Nelson Way	Treat as contributor to Greenbrae District	A
	<b>SHPO Resource ID #</b>	<b>Address</b>	<b>FHWA NRHP Eligibility Determination</b>	<b>Criteria</b>
151	B12128	2795 Nelson Way	Treat as contributor to Greenbrae District	A
152	B12129	2800 Nelson Way	Treat as contributor to Greenbrae District	A
153	B12130	2191 Pyramid Way	Not Eligible	
154	B12131	2221 Pyramid Way	Not Eligible	
155	B12132	2975 Pyramid Way	Eligible	A & C
156	B12133	3305 Pyramid Way	Not Eligible	
157	B12134	3345 Pyramid Way	Not Eligible	
158	B12135	3397 Pyramid Way	Not Eligible	
159	B12136	3400 Pyramid Way	Not Eligible	
160	B12137	575 Queen Way	Not Eligible	
161	B12138	625 Queen Way	Not Eligible	
162	B12139	720 Richards Way	Treat as contributor to Greenbrae District	A
163	B12140	2955 Rock Boulevard, N	Not Eligible	
164	B12141	2555 Simms Circle	Treat as contributor to Greenbrae District	A
165	B12142	2560 Simms Circle	Treat as contributor to Greenbrae District	A
166	B12143	2575 Simms Circle	Treat as contributor to Greenbrae District	A
167	B12144	2580 Simms Circle	Treat as contributor to Greenbrae District	A
168	B12145	4945 Skyridge Lane	Not Eligible	
169	B12146	4955 Skyridge Lane	Not Eligible	
170	B12147	4995 Skyridge Lane	Not Eligible	
171	B12148	3005 Sprout Way	Not Eligible	
172	B12149	3035 Sprout Way	Not Eligible	
173	B12150	3060 Sprout Way	Not Eligible	
174	B12151	3065 Sprout Way	Not Eligible	
175	B12152	3090 Sprout Way	Not Eligible	
176	B12153	3095 Sprout Way	Not Eligible	
177	B12154	3105 Sprout Way	Not Eligible	



178	B12155	3135 Sprout Way	Not Eligible	
179	B12156	3165 Sprout Way	Not Eligible	
180	B12157	3170 Sprout Way	Not Eligible	
181	B12158	3215 Sprout Way	Not Eligible	
182	B12159	3230 Sprout Way	Not Eligible	
	<b>SHPO Resource ID #</b>	<b>Address</b>	<b>FHWA NRHP Eligibility Determination</b>	<b>Criteria</b>
183	B12160	3235 Sprout Way	Not Eligible	
184	B12161	3260 Sprout Way	Not Eligible	
185	B12162	3265 Sprout Way	Not Eligible	
186	B12163	4790 Wedekind Road	Not Eligible	
187	B12164	4820 Wedekind Road	Not Eligible	
188	B12165	5645 Wedekind Road	Not Eligible	
189	B12166	5650 Wedekind Road	Not Eligible	
190	B12167	5699 Wedekind Road	Not Eligible	
191	B12168	5705 Wedekind Road	Not Eligible	
192	B12169	5733 Wedekind Road	Not Eligible	
193	B12170	5775 Wedekind Road	Not Eligible	
194	B12171	760 York Way	Treat as contributor to Greenbrae District	A
195	B12172	790 York Way	Treat as contributor to Greenbrae District	A
196	D112	Greenbrae Historic District	Treat as Eligible	A

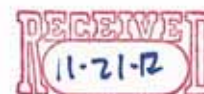
If you have any questions, please feel free to call me at (775) 687-1231.

Sincerely,

Abdelmoez A. Abdalla  
Environmental Program Manager

Enclosure:  
ARA Form for Greenbrae District

cc: Cliff Creger, NDOT  
Elizabeth Dickey, NDOT  
Jin Zhen, FHWA



1.	SHPO Resource Number: D112
	Other ID Number:

**NEVADA STATE HISTORIC PRESERVATION OFFICE**  
**ARCHITECTURAL RESOURCE ASSESSMENT (ARA)**  
**HISTORIC DISTRICT FORM**

*For SHPO Use Only*

Lead Eligibility \_\_\_\_\_

SHPO Concurrence Y / N

**2. PROPERTY NAME**

HISTORIC DISTRICT NAME: GREEN BRAE TERRACE SUBDIVISION
CURRENT/Common NAME: GREEN BRAE TERRACE SUBDIVISION

**3. DISTRICT LOCATION**

CITY: SPARKS	COUNTY: WASHOE
--------------	----------------

**4. DISTRICT SUMMARY**

TOTAL CONTRIBUTING RESOURCES: UNEVALUATED	TOTAL NON-CONTRIBUTING RESOURCES: UNEVALUATED
TOTAL ACRES IN DISTRICT: 342	

**5. THREATS TO RESOURCE**

Incompatible alterations, demolition for highway expansion.
---

**6. NATIONAL REGISTER ELIGIBILITY**

NR Listed <input type="checkbox"/>	Date NR Listed:			
Eligible Under:	Criterion A <input type="checkbox"/>	Criterion B <input type="checkbox"/>	Criterion C <input type="checkbox"/>	Criterion D <input type="checkbox"/>
Not Eligible <input type="checkbox"/>				
Unevaluated <input checked="" type="checkbox"/>				
Historic Themes:				
Eligibility Justification: Please attach continuation sheet.				

**7. WRITTEN DESCRIPTION**

The approximate boundaries for the contiguous historic district, for purposes of this project, are Gault Way on the north, Pyramid Way on the west, variably Probasco Way and 1<sup>st</sup> Street on the eastern edge, and H Street forming the southern border.

The original Green Brae Terrace housing subdivision began to be developed on H Street between Pyramid Way and 4<sup>th</sup> Street by Scoble, Inc. in 1948; by 1950 the subdivision had been taken over by the firm of W. W [Wes] Wiechmann and [George A.] Probasco Inc.; and by 1953 the subdivision was being developed and marketed by Probasco Inc. only. Green Brae Terrace was Spark's largest single real estate development at that time, with many of the homes being advertised as "G.I. Homes," and which had Federal Housing Administration and Veteran Administration's loan approval. The development's subdivision tracts opened over time in a series of "Additions," and tended to be constructed primarily in a north and eastern direction from the first set of houses as time passed. Within the APE are houses from "Westerly Addition H and J," located on the west side of Pyramid Way, and "Addition Numbers 14-17" located east of Pyramid Way. The Green Brae Terrace buildings located within the APE have a construction date from between 1959 and 1963.

IF FURTHER SPACE IS NEEDED FOR WRITTEN DESCRIPTION, PLEASE ATTACH A SEPARATE CONTINUATION SHEET.

## Written Description

Most of the homes were designed in variations of the California Ranch style, with the earliest and smallest houses being in the southern portion of the tract, well outside the APE. Original character-defining features associated with the houses located within the Green Brae Terrace Additions within the APE include:

- Single-story in height, with a generally rectangular plan
- Side-gabled roof; Some with brackets accenting the roof eaves
- Aluminum sliding glass windows
- Coursed asbestos shingle siding

In addition to the landscape being one consisting of rows of houses reflecting architectural similarity and the use of uniform building materials, other physical features of the district include standard lot sizes within a suburban-like setting with lawns, bushes and trees. Access to and from this postwar housing development is by means of many local and arterial streets.



**9. DISTRICT SUMMARY**

<b>SHPO RESOURCE # AND/OR TRINOMIAL</b>	<b>ACCESSORY STRUCTURE # (IF APPLICABLE)</b>	<b>CONTRIBUTING</b>	<b>NON-CONTRIBUTING</b>
B12085	N/A	Treat as contributing	
B12086	N/A	Treat as contributing	
B12087	N/A	Treat as contributing	
B12088	N/A	Treat as contributing	
B12089	N/A	Treat as contributing	
B12090	N/A	Treat as contributing	
B12091	N/A	Treat as contributing	
B12092	N/A	Treat as contributing	
B12093	N/A	Treat as contributing	
B12094	N/A	Treat as contributing	
B12095	N/A	Treat as contributing	
B12096	N/A	Treat as contributing	
B12097	N/A	Treat as contributing	
B12098	N/A	Treat as contributing	
B12099	N/A	Treat as contributing	
B12100	N/A	Treat as contributing	
B12101	N/A	Treat as contributing	
B12102	N/A	Treat as contributing	
B12103	N/A	Treat as contributing	
B12104	N/A	Treat as contributing	
B12105	N/A	Treat as contributing	
B12106	N/A	Treat as contributing	
B12107	N/A	Treat as contributing	
B12108	N/A	Treat as contributing	
B12109	N/A	Treat as contributing	
B12110	N/A	Treat as contributing	
B12111	N/A	Treat as contributing	
B12112	N/A	Treat as contributing	
B12113	N/A	Treat as contributing	
B12114	N/A	Treat as contributing	
B12115	N/A	Treat as contributing	
B12116	N/A	Treat as contributing	
B12117	N/A	Treat as contributing	
B12118	N/A	Treat as contributing	
B12119	N/A	Treat as contributing	
B12120	N/A	Treat as contributing	
B12121	N/A	Treat as contributing	
B12122	N/A	Treat as contributing	
B12123	N/A	Treat as contributing	
B12124	N/A	Treat as contributing	
B12125	N/A	Treat as contributing	
B12126	N/A	Treat as contributing	



[illegible]

## 10. ELIGIBILITY JUSTIFICATION

The Green Brae Subdivision is considered unevaluated. For Section 106 purposes, it is being treated as an eligible historic district under Criterion A at the local level of significance for its association with the post-World War II expansion of subdivision housing tracts in Sparks, a type of development that was emerging across much of the America landscape. Its period of significance is 1948 to 1963.

The first reference to the housing development of Green Brae Terrace appears to be in connection to Scoble, Inc., with their office at 4<sup>th</sup> and H Streets in Sparks, off Pyramid Way in March 1948, with a notice of availability of 52 two-bedroom houses (priced at \$9500). In addition to two bedrooms, the houses were listed as containing a living room, dining room, kitchen, tile bath, hardwood floors and fireplace. A newspaper advertisement by Scoble, Inc., indicated the housing was being built "to rigid FHA specifications" and "to comply with the Federal Government's requirement for economy housing."

Research did not reveal how it was that W.W. Wiechmann and George A. Probasco Inc., became associated with the Green Brae Terrace subdivision development and Scoble, Inc.'s involvement appears to have stopped in 1950 – but looking back that was also the year George Probasco always gave as his starting time with the Green Brae development. Apparently the firm did not envision the massive tract development that it would grow to become within the next decade or so, as a local newspaper article noted in 1950, "Eventually Green Brae Terrace, centered on H street, will contain 300 houses" and the article further noted it was to be completed within three years and Wiechmann & Probasco Inc., would annex Green Brae Terrace to the city of Sparks." In early 1953, Wiechmann broke from Probasco and it was only Probasco, Inc., that carried the Green brae Terrace development onward.

Green Brae Terrace did not originate in concept as a master-planned community when it first opened up for sales, but rather it grew over time and was built in phases. As adjacent lands to the initial housing tracts were purchased and eventually annexed to the City of Sparks, the community over time would encompass certain other elements reflective of a planned community, including land devoted to parks, schools, and a large retail shopping center, but these were not integrated at the outset. As houses were sold, a developer such as Probasco often could finance new phases of construction.

In the first five years of construction of the Green Brae Terrace, no reference was made to anything but residential structures. However, Probasco apparently started talking to regional planners about a shopping center and other amenities in 1954. In time, Probasco set aside the land, including removing buildings from the old Sparks Air Park, which he had purchased, to accommodate a number of community businesses and other services including the Greenbrae Shopping Center, with a "super market" bank, restaurants and shops (opened in January 1958), a medical-dental center building (opened in late 1959), a gas station, public schools, e.g., Drake elementary (opened in 1963), and several churches.

Said to be a first for northern Nevada, Probasco's firm also developed three "garden type" cooperative apartment housing developments, a forerunner to today's condominium concept. Three large 56-unit apartments (four buildings in each of the three apartments) – in which the occupant fully owns the apartment – were built in Green Brae Terrace: Greenbrae Manor, Lynwood Arms and Ardmore Arms, all constructed between 1955 and 1961.

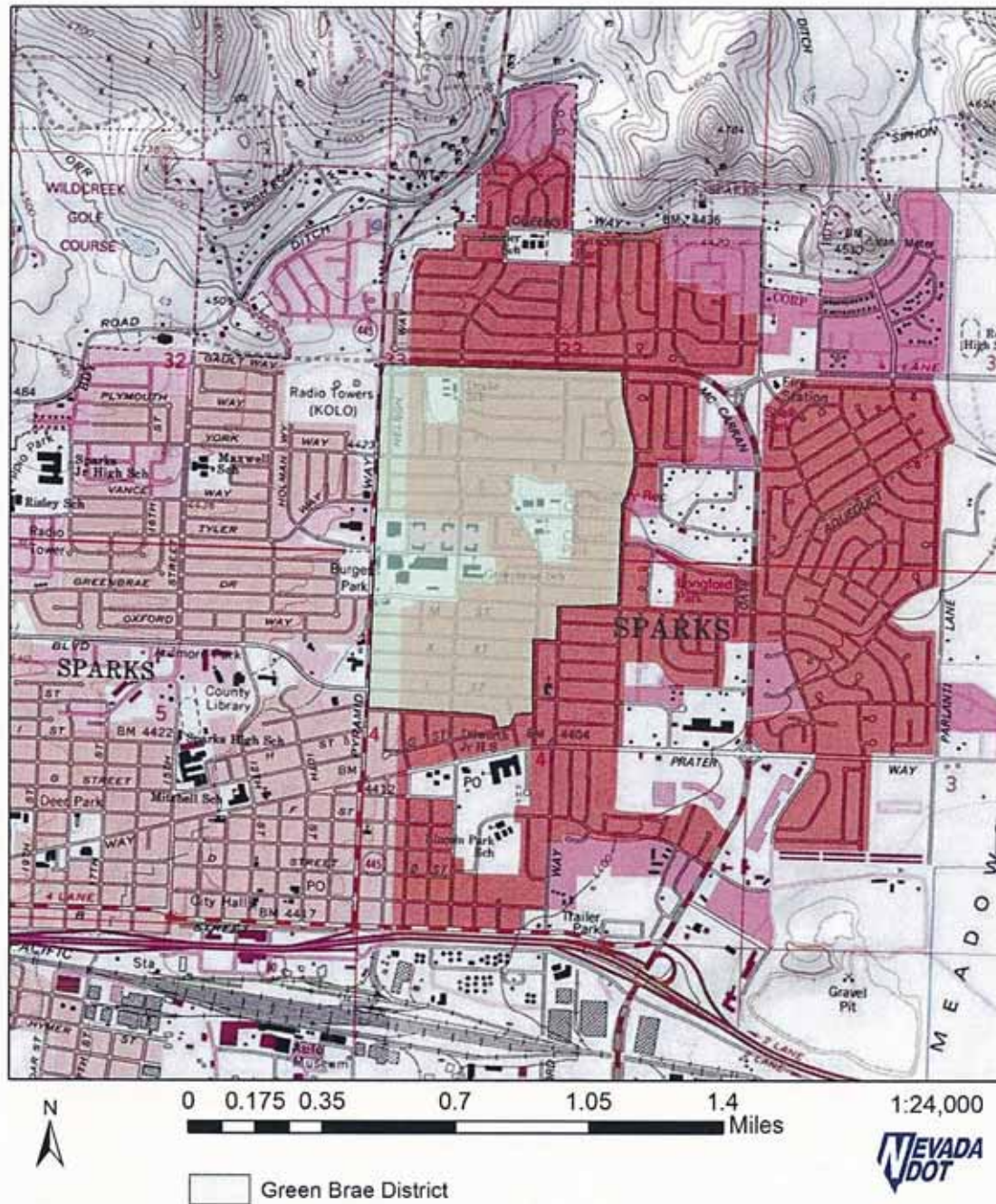
In the later tract unit phases he opened at Green Brae Terrace, Probasco began to offer more variety to lure homebuyers. For example, in 1961 he was promoting the construction of three and four bedroom houses, the latter accompanied by double-garages. And by the early 1960s, Probasco Inc., was offering four architectural models in the newest phase in Green Brae: The Ponderosa, Shalimar, Kit Carson, and the Georgian. It appears that Probasco opened up his last tract for development at Green Brae Terrace in the early 1960s.



## 11. BOUNDARY MAP

### Pyramid-McCarran Intersection Project

Sparks, Washoe County, Nevada





## 12. LOCATION MAP

### Pyramid-McCarran Intersection Project

Sparks, Washoe County, Nevada





## **. PHOTOGRAPHS**



Façade: 560 Gault Way Facing: N Photographer: Carrie Chasteen Date: August 2009



Façade: 610 Gault Way Facing: N Photographer: Carrie Chasteen Date: August 2009



. **PHOTOGRAPHS**



Façade: 2755 Nelson Way Facing: NW Photographer: August 2009 Date: August 2009



Façade: 2675 Nelson Way Facing: W Photographer: Carrie Chasteen Date: Aug. 2009

LEO M. DROZDOFF, P.E.

*Director*

Department of Conservation and  
Natural Resources

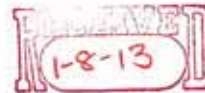
RONALD M. JAMES

*State Historic Preservation Officer*

BRIAN SANDOVAL

*Governor*

STATE OF NEVADA



Address Reply to:  
901 S. Stewart Street, Suite 5004  
Carson City, NV 89701-5248  
Phone: (775) 684-3448  
Fax: (775) 684-3442

[www.nvshpo.org](http://www.nvshpo.org)

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
**STATE HISTORIC PRESERVATION OFFICE**

January 4, 2013

Abdelmoez Abdalla, Environmental Program Manager  
US Department of Transportation  
Federal Highway Administration  
705 North Plaza Street, Suite 220  
Carson City, Nevada 89701

Re: Pyramid Way and McCarran Boulevard Intersection Improvement Project, Sparks, Washoe County, Nevada  
Federal Project No: CM-0191-(063)  
SHPO Undertaking No: 2010-0873

Dear Mr. Abdalla,

The Nevada State Historic Preservation Office (SHPO) has initiated review of the above referenced reports for subject undertaking for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. Based on the information received in correspondence from FHWA dated December 3, 2012 (received December 7<sup>th</sup>), the project consists of the widening of McCarran Boulevard between approximately Queen Way and Tyler Way in Sparks, Washoe County, Nevada.

SHPO's letter dated September 14, 2013 indicated that the revised context was insufficient to evaluate the resources within the APE. On October 4, 2012 a meeting occurred with SHPO, FHWA, and NODT to discuss a plan to move forward and as a result it was agreed that for Section 106 purposes the resources located within the Greenbrae Subdivision would be considered as eligible as contributing resources to the Greenbrae Historic District. This approach along with USGS maps, labels for photographs, Update Forms for the 74 resources less than 50 years, and a Greenbrae district form provided SHPO with the necessary information to complete the review.

**Determinations of Eligibility**

Based on page 4 of the architectural report all properties within the APE built in 1969 or earlier were documented utilizing Nevada's Historic Resource Inventory Form (HRIF). A total of 195 properties were documented. Additionally, B8161 was recently and previously determined to be eligible for listing in the National Register and a copy of the original HRIF was submitted.



Based on the submitted information:

The SHPO concurs with FHWA that the following property is eligible for listing in the National Register of Historic Places (NRHP):

	SHPO Resource #	SHPO Eligibility	Criteria
1	B12132	Eligible	A & C

The SHPO concurs with FHWA that the following district is eligible for listing in the NRHP:

	SHPO Resource #	SHPO Eligibility	Criteria
1	D112	Eligible	A & C

The SHPO concurs with FHWA that the following 75 properties are not individually eligible. However, for Section 106 purposes these properties are eligible as contributing resources to the Greenbrae Historic District:

	SHPO Resource #	SHPO Eligibility	Criteria
1	B11984	Contributing to Greenbrae Historic District	A
2	B11985	Contributing to Greenbrae Historic District	A
3	B11986	Contributing to Greenbrae Historic District	A
4	B11993	Contributing to Greenbrae Historic District	A
5	B11994	Contributing to Greenbrae Historic District	A
6	B11995	Contributing to Greenbrae Historic District	A



7	B11996	Contributing to Greenbrae Historic District	A
8	B11997	Contributing to Greenbrae Historic District	A
9	B11998	Contributing to Greenbrae Historic District	A
10	B11999	Contributing to Greenbrae Historic District	A
11	B12000	Contributing to Greenbrae Historic District	A
12	B12001	Contributing to Greenbrae Historic District	A
13	B12002	Contributing to Greenbrae Historic District	A
14	B12003	Contributing to Greenbrae Historic District	A
15	B12004	Contributing to Greenbrae Historic District	A
16	B12005	Contributing to Greenbrae Historic District	A
17	B12006	Contributing to Greenbrae Historic District	A
18	B12007	Contributing to Greenbrae Historic District	A
19	B12008	Contributing to Greenbrae Historic District	A
20	B12009	Contributing to Greenbrae Historic District	A
21	B12010	Contributing to Greenbrae Historic District	A
22	B12011	Contributing to Greenbrae Historic District	A
23	B12085	Contributing to Greenbrae Historic District	A
24	B12086	Contributing to Greenbrae Historic District	A
25	B12087	Contributing to Greenbrae Historic District	A
26	B12088	Contributing to Greenbrae Historic District	A

27	B12089	Contributing to Greenbrae Historic District	A
28	B12090	Contributing to Greenbrae Historic District	A
29	B12091	Contributing to Greenbrae Historic District	A
30	B12092	Contributing to Greenbrae Historic District	A
31	B12093	Contributing to Greenbrae Historic District	A
32	B12094	Contributing to Greenbrae Historic District	A
33	B12095	Contributing to Greenbrae Historic District	A
34	B12096	Contributing to Greenbrae Historic District	A
35	B12097	Contributing to Greenbrae Historic District	A
36	B12098	Contributing to Greenbrae Historic District	A
37	B12099	Contributing to Greenbrae Historic District	A
38	B12100	Contributing to Greenbrae Historic District	A
39	B12101	Contributing to Greenbrae Historic District	A
40	B12102	Contributing to Greenbrae Historic District	A
41	B12103	Contributing to Greenbrae Historic District	A
42	B12104	Contributing to Greenbrae Historic District	A
43	B12105	Contributing to Greenbrae Historic District	A
44	B12106	Contributing to Greenbrae Historic District	A
45	B12107	Contributing to Greenbrae Historic District	A
46	B12108	Contributing to Greenbrae Historic District	A

47	B12109	Contributing to Greenbrae Historic District	A
48	B12110	Contributing to Greenbrae Historic District	A
49	B12111	Contributing to Greenbrae Historic District	A
50	B12112	Contributing to Greenbrae Historic District	A
51	B12113	Contributing to Greenbrae Historic District	A
52	B12114	Contributing to Greenbrae Historic District	A
53	B12115	Contributing to Greenbrae Historic District	A
54	B12116	Contributing to Greenbrae Historic District	A
55	B12117	Contributing to Greenbrae Historic District	A
56	B12118	Contributing to Greenbrae Historic District	A
57	B12119	Contributing to Greenbrae Historic District	A
58	B12120	Contributing to Greenbrae Historic District	A
59	B12121	Contributing to Greenbrae Historic District	A
60	B12122	Contributing to Greenbrae Historic District	A
61	B12123	Contributing to Greenbrae Historic District	A
62	B12124	Contributing to Greenbrae Historic District	A
63	B12125	Contributing to Greenbrae Historic District	A
64	B12126	Contributing to Greenbrae Historic District	A
65	B12127	Contributing to Greenbrae Historic District	A
66	B12128	Contributing to Greenbrae Historic District	A

67	B12129	Contributing to Greenbrae Historic District	A
68	B12139	Contributing to Greenbrae Historic District	A
69	B12141	Contributing to Greenbrae Historic District	A
70	B12142	Contributing to Greenbrae Historic District	A
71	B12143	Contributing to Greenbrae Historic District	A
72	B12144	Contributing to Greenbrae Historic District	A
73	B12171	Contributing to Greenbrae Historic District	A
74	B12172	Contributing to Greenbrae Historic District	A
75	B11987	Contributing to Greenbrae Historic District	A

The SHPO concurs with FHWA that the following 119 properties are not eligible.

	SHPO Resource #	SHPO Eligibility
1	B11978	Not Eligible
2	B11979	Not Eligible
3	B11980	Not Eligible
4	B11981	Not Eligible
5	B11982	Not Eligible
6	B11983	Not Eligible
7	B11988	Not Eligible
8	B11989	Not Eligible
9	B11990	Not Eligible
10	B11991	Not Eligible
11	B11992	Not Eligible
12	B12023	Not Eligible
13	B12024	Not Eligible
14	B12025	Not Eligible
15	B12026	Not Eligible



16	B12027	Not Eligible
17	B12028	Not Eligible
18	B12029	Not Eligible
19	B12030	Not Eligible
20	B12031	Not Eligible
21	B12130	Not Eligible
22	B12131	Not Eligible
23	B12133	Not Eligible
24	B12134	Not Eligible
25	B12135	Not Eligible
26	B12136	Not Eligible
27	B12137	Not Eligible
28	B12138	Not Eligible
29	B12140	Not Eligible
30	B12145	Not Eligible
31	B12146	Not Eligible
32	B12147	Not Eligible
33	B12148	Not Eligible
34	B12149	Not Eligible
35	B12150	Not Eligible
36	B12151	Not Eligible
37	B12153	Not Eligible
38	B12154	Not Eligible
39	B12155	Not Eligible
40	B12156	Not Eligible
41	B12157	Not Eligible
42	B12158	Not Eligible
43	B12159	Not Eligible
44	B12160	Not Eligible
45	B12161	Not Eligible
46	B12163	Not Eligible
47	B12164	Not Eligible
48	B12165	Not Eligible
49	B12166	Not Eligible
50	B12167	Not Eligible
51	B12168	Not Eligible
52	B12169	Not Eligible
53	B12170	Not Eligible
54	B12012	Not Eligible

55	B12013	Not Eligible
56	B12014	Not Eligible
57	B12015	Not Eligible
58	B12016	Not Eligible
59	B12017	Not Eligible
60	B12018	Not Eligible
61	B12019	Not Eligible
62	B12020	Not Eligible
63	B12021	Not Eligible
64	B12022	Not Eligible
65	B12032	Not Eligible
66	B12033	Not Eligible
67	B12034	Not Eligible
68	B12035	Not Eligible
69	B12036	Not Eligible
70	B12037	Not Eligible
71	B12038	Not Eligible
72	B12039	Not Eligible
73	B12040	Not Eligible
74	B12041	Not Eligible
75	B12042	Not Eligible
76	B12043	Not Eligible
77	B12044	Not Eligible
78	B12045	Not Eligible
79	B12046	Not Eligible
80	B12047	Not Eligible
81	B12048	Not Eligible
82	B12049	Not Eligible
83	B12050	Not Eligible
84	B12051	Not Eligible
85	B12052	Not Eligible
86	B12053	Not Eligible
87	B12054	Not Eligible
88	B12055	Not Eligible
89	B12056	Not Eligible
90	B12057	Not Eligible
91	B12058	Not Eligible
92	B12059	Not Eligible
93	B12060	Not Eligible
94	B12061	Not Eligible

95	B12062	Not Eligible
96	B12063	Not Eligible
97	B12064	Not Eligible
98	B12065	Not Eligible
99	B12066	Not Eligible
100	B12067	Not Eligible
101	B12068	Not Eligible
102	B12069	Not Eligible
103	B12070	Not Eligible
104	B12071	Not Eligible
105	B12072	Not Eligible
106	B12073	Not Eligible
107	B12074	Not Eligible
108	B12075	Not Eligible
109	B12076	Not Eligible
110	B12077	Not Eligible
111	B12078	Not Eligible
112	B12079	Not Eligible
113	B12080	Not Eligible
114	B12081	Not Eligible
115	B12082	Not Eligible
116	B12083	Not Eligible
117	B12084	Not Eligible
118	B12152	Not Eligible
119	B12162	Not Eligible

If you have questions regarding the architectural contents of this correspondence, please contact Sara Fogelquist, Architectural Historian, at 775-684-3427 or [sfogelquist@shpo.nv.gov](mailto:sfogelquist@shpo.nv.gov)

Sincerely,



Rebecca L. Palmer  
Deputy State Historic Preservation Officer

cc: C. Cliff Creger, NDOT





**APPENDIX C**  
**PARTICIPATING AGENCY**  
**CORRESPONDENCE**





U.S. Department  
of Transportation  
**Federal Highway  
Administration**

705 North Plaza St. Suite 220  
Carson City, NV 89701

May 8, 2009

Nevada Division

In Reply Refer To:  
HENV-NV

Subject: Pyramid Way and McCarran Boulevard Intersection Improvement Project EIS  
Federal Agency/Participating Agency Invitation

Carolyn Mulvihill  
Environmental Protection Specialist  
Environmental Review Office  
U.S. EPA, Region 9  
75 Hawthorne Street, CED-  
San Francisco, California 94105-3901

Dear Ms. Mulvihill:

The Federal Highway Administration (FHWA), in cooperation with the Nevada Department of Transportation (NDOT) and the Regional Transportation Commission of Washoe County (RTC), is initiating the preparation of an Environmental Impact Statement (EIS) for the Pyramid Way and McCarran Boulevard Intersection Improvement Project. The purpose of the proposed project is to enhance the operational characteristics of the intersection and improve safety. The Pyramid Way and McCarran Boulevard Intersection is a transportation network component serving the needs of the communities in Washoe County and the Cities of Sparks and Reno. The intersection links commuters from unincorporated Washoe County to the north via State Route 445 (Pyramid Highway) and commuters from the City of Sparks to the east via Baring and McCarran Boulevards.

Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Act: A legacy for users establishes the environmental review process for certain FHWA projects, which allows for more opportunities for public and agency participation. As part of the environmental review process for this project, the lead agencies must identify, as early as practicable, any other federal and non-Federal agencies that may have an interest in the project, and invite such agencies to become participating agency in the environmental review process. Your agency has been identified as one that may have an interest in this project. Accordingly, you are invited to become actively involved as a participating agency with this project. Acceptance of participating agency designation does not imply that your agency supports the proposed project or has jurisdiction or special expertise. The purpose of being a participating agency is to cooperatively work with the lead agency to identify and resolve issues that could delay completion of the process or could result in denial of approvals required for the project.

We suggest that your agency's role in the development of this EIS should include the following:

- Provide input on the impact assessment methodologies and level of detail in your agency's area of expertise;
- Participate in coordination meetings, conference calls, and joint field reviews, as appropriate;

**MOVING THE  
AMERICAN  
ECONOMY**

- Identify as early as practicable issues of concern regarding the project's impacts;
- Identify as early as practicable issues that could delay or prevent an agency from granting a permit or approval needed for the project;
- Provide comments back on purpose and need, alternatives and proposed methodologies within 30 calendar days; and
- Provide comments on the Draft EIS within 60 days

The following are activities we will undertake to maximize interagency cooperation:

- Include you on mailing lists for coordination meetings;
- Invite you to project development team meetings;
- Consult with you on relevant technical studies required for the project and share information that may be useful to other studies in the area;
- Invite you to participate in field reviews;
- Organize joint field reviews with you, if requested;
- Provide you with project information, such as purpose and need, alternatives, proposed methodologies, and existing conditions and impacts; and
- Encourage you to use the above documents to express your review on subjects within your jurisdiction or expertise

We also invite you to become a member of the project Technical Advisory Committee (TAC). Responsibilities of this committee are similar to those of participating agencies. However, inclusion on the TAC will enable you to receive periodic project updates and work collaboratively with local, state, and federal stakeholders toward a successful project. The TAC is scheduled to meet on the 1st Tuesday every other month beginning in June 2009. An agency scoping meeting was held on January 13, 2009. Your agency was invited to this meeting via letter dated December 5, 2008.

For your review and comment, we have included a copy of the coordination plan developed for this project. The coordination plan details the elements and expectations discussed in this letter, and lists the other agencies, groups and individuals involved in this environmental review process.

We look forward to your response and your potential role as a participating agency on this project. Please respond to FHWA in writing with an acceptance or denial of the invitation no later than June 8, 2009. As a federal agency, you are designated as a participating agency unless your agency declines the invitation by the specified deadline. If choosing to decline, your response letter must state that your agency:

- Has no jurisdiction or authority with respect to the project;
- Has no expertise or information relevant to the project; and
- Does not intend to submit comments on the project



If you have questions or would like to discuss the project in more detail or your agency's respective roles and responsibilities during the preparation of this document, please contact me at (775) 687-1231 or [abdelmoez.abdalla@fhwa.dot.gov](mailto:abdelmoez.abdalla@fhwa.dot.gov).

Sincerely,

*a. a. abdalla*

Abdelmoez Abdalla  
Environmental Program Manager

Enclosure

cc: Steve Cooke, NDOT  
Bill Vann, RTC  
Scott Gibson, RTC  
Andrea Reeves, Parsons

ecc: Andrew Soderborg, FHWA

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY****REGION IX****75 Hawthorne Street****San Francisco, CA 94105-3901**

June 2, 2009

Abdelmoez A. Abdalla  
Environmental Program Manager  
Federal Highway Administration  
705 N. Plaza, Suite 220  
Carson City, NV 89701

Subject: Response to Participating Agency Request for the Pyramid Way and McCarran  
Boulevard Intersection Improvement Project, Washoe County, Nevada

Dear Mr. Abdalla:

We are writing in response to your May 8, 2009 letter inviting the U.S. Environmental Protection Agency (EPA) to become a Participating Agency for the Pyramid Way and McCarran Boulevard Intersection Improvement Project, Washoe County, Nevada. The Federal Highway Administration (FHWA), in cooperation with the Nevada Department of Transportation (NDOT) and the Regional Transportation Commission of Washoe County (RTC) will prepare a Draft Environmental Impact Statement (DEIS) for the project under the National Environmental Policy Act. On October 5, 2007, EPA provided scoping comments for this project in response to the Federal Register Notice published on September 4, 2007.

EPA accepts FHWA's invitation to become a Participating Agency as defined in Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). We look forward to working with FHWA to ensure that the SAFETEA-LU implementation procedures assist both our agencies in meeting our statutory missions.

Section 6002 requires that the lead agency provide an opportunity for involvement by Participating Agencies in defining the Purpose and Need and in determining the Range of Alternatives for a project as early as practicable during the environmental review process. Specifically, the involvement of participating agencies early during the development of Purpose and Need should inform the scope and development of project alternatives. EPA recommends that FHWA request participating agency feedback on the Purpose and Need before extensive effort is expended on developing a Range of Alternatives so that agency input can help shape alternative development. EPA is also available to assist in the determination of the methodologies to be used and could provide input to FHWA on the level of detail required for the technical studies to inform the development of the DEIS.

The Coordination Plan for this project states that materials for review may be provided at scoping or other meetings. Since EPA's involvement in meetings may be limited due to resource constraints, we request that project documents requiring interagency review and comment be submitted to us in writing with a 30-day review period.

We also note that EPA and the State Historic Preservation Officer are the only resource agencies listed as potential Participating Agencies in the Coordination Plan. We encourage FHWA to extend the invitation to other relevant resource agencies, and in particular, the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service.

EPA is also a Participating Agency for the Pyramid Highway – US 395 Connection Project. We encourage FHWA to coordinate the planning and potential construction of that project and the intersection improvement project as much as possible.

We appreciate FHWA's interest in working with EPA and look forward to participating in the project's DEIS development. EPA's participation as a Participating Agency does not constitute formal or informal approval of any part of this project under any statute administered by EPA, nor does it limit in any way EPA's independent review of the Draft and Final EISs pursuant to Section 309 of the Clean Air Act. Please contact me at 415-947-3554 or [mulvihill.carolyn@epa.gov](mailto:mulvihill.carolyn@epa.gov) for further coordination on this project.

Sincerely,



Carolyn Mulvihill  
Environmental Review Office

cc: Steve Cooke, NDOT  
Bill Vann, RTC  
Kristine Hansen, U.S. Army Corps of Engineers  
Kathleen Erwin, U.S. Fish & Wildlife Service



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

705 North Plaza St. Suite 220  
Carson City, NV 89701

May 8, 2009

Nevada Division

In Reply Refer To:  
HENV-NV

Subject: Pyramid Way and McCarran Boulevard Intersection Improvement Project EIS  
Federal Agency/Participating Agency Invitation

Ronald James  
State Historic Preservation Officer  
Nevada State Historic Preservation Office  
100 North Stewart Street  
Carson City, NV 89701

Dear Mr. James:

The Federal Highway Administration (FHWA), in cooperation with the Nevada Department of Transportation (NDOT) and the Regional Transportation Commission of Washoe County (RTC), is initiating the preparation of an Environmental Impact Statement (EIS) for the Pyramid Way and McCarran Boulevard Intersection Improvement Project. The purpose of the proposed project is to enhance the operational characteristics of the intersection and improve safety. The Pyramid Way and McCarran Boulevard Intersection is a transportation network component serving the needs of the communities in Washoe County and the Cities of Sparks and Reno. The intersection links commuters from unincorporated Washoe County to the north via State Route 445 (Pyramid Highway) and commuters from the City of Sparks to the east via Baring and McCarran Boulevards.

Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Act: A legacy for users establishes the environmental review process for certain FHWA projects, which allows for more opportunities for public and agency participation. As part of the environmental review process for this project, the lead agencies must identify, as early as practicable, any other federal and non-Federal agencies that may have an interest in the project, and invite such agencies to become participating agency in the environmental review process. Your agency has been identified as one that may have an interest in this project. Accordingly, you are invited to become actively involved as a participating agency with this project. Acceptance of participating agency designation does not imply that your agency supports the proposed project or has jurisdiction or special expertise. The purpose of being a participating agency is to cooperatively work with the lead agency to identify and resolve issues that could delay completion of the process or could result in denial of approvals required for the project.

We suggest that your agency's role in the development of this EIS should include the following:

- Provide input on the impact assessment methodologies and level of detail in your agency's area of expertise;
- Participate in coordination meetings, conference calls, and joint field reviews, as appropriate;
- Identify as early as practicable issues of concern regarding the project's impacts;

**MOVING THE  
AMERICAN  
ECONOMY**



- Identify as early as practicable issues that could delay or prevent an agency from granting a permit or approval needed for the project;
- Provide comments back on purpose and need, alternatives and proposed methodologies within 30 calendar days; and
- Provide comments on the Draft EIS within 60 days

The following are activities we will undertake to maximize interagency cooperation:

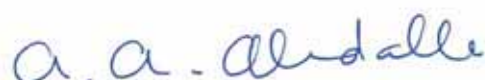
- Include you on mailing lists for coordination meetings;
- Invite you to project development team meetings;
- Consult with you on relevant technical studies required for the project and share information that may be useful to other studies in the area;
- Invite you to participate in field reviews;
- Organize joint field reviews with you, if requested;
- Provide you with project information, such as purpose and need, alternatives, proposed methodologies, and existing conditions and impacts; and
- Encourage you to use the above documents to express your review on subjects within your jurisdiction or expertise.

We also invite you to become a member of the project Technical Advisory Committee (TAC). Responsibilities of this committee are similar to those of participating agencies; however, inclusion on the TAC will enable you to receive periodic project updates and work collaboratively with local, state, and federal stakeholders toward a successful project. The TAC is scheduled to meet on the 1st Tuesday every other month beginning in June 2009. An agency scoping meeting was held on January 13, 2009. Your agency was invited to this meeting via letter dated December 5, 2008.

For your review and comment, we have included a copy of the coordination plan developed for this project. The coordination plan details the elements and expectations discussed in this letter, and lists the other agencies, groups and individuals involved in this environmental review process.

We look forward to your response and your potential role as a participating agency on this project. Please respond to FHWA in writing with an acceptance or denial of the invitation no later than June 8, 2009. This response should state your reason for declining the invitation. If you have questions or would like to discuss the project in more detail or your agency's respective roles and responsibilities during the preparation of this document, please contact me at (775) 687-1231 or [abdelmoez.abdalla@fhwa.dot.gov](mailto:abdelmoez.abdalla@fhwa.dot.gov).

Sincerely,



Abdelmoez Abdalla  
Environmental Program Manager

Enclosure

cc: Steve Cooke, NDOT  
Bill Vann, RTC  
Scott Gibson, RTC  
Andrea Reeves, Parsons

ecc: Andrew Soderborg, FHWA



May 8, 2009

Nevada Division

In Reply Refer To:  
HENV-NV

Subject: Pyramid Way and McCarran Boulevard Intersection Improvement Project EIS  
Federal Agency/Participating Agency Invitation

Robert Larkin, Chair  
Washoe County Commission  
1001 E. 9<sup>th</sup> Street  
Reno, NV 89512

Dear Mr. Larkin:

The Federal Highway Administration (FHWA), in cooperation with the Nevada Department of Transportation (NDOT) and the Regional Transportation Commission of Washoe County (RTC), is initiating the preparation of an Environmental Impact Statement (EIS) for the Pyramid Way and McCarran Boulevard Intersection Improvement Project. The purpose of the proposed project is to enhance the operational characteristics of the intersection and improve safety. The Pyramid Way and McCarran Boulevard Intersection is a transportation network component serving the needs of the communities in Washoe County and the Cities of Sparks and Reno. The intersection links commuters from unincorporated Washoe County to the north via State Route 445 (Pyramid Highway) and commuters from the City of Sparks to the east via Baring and McCarran Boulevards.

Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Act: A legacy for users establishes the environmental review process for certain FHWA projects, which allows for more opportunities for public and agency participation. As part of the environmental review process for this project, the lead agencies must identify, as early as practicable, any other federal and non-Federal agencies that may have an interest in the project, and invite such agencies to become participating agency in the environmental review process. Your agency has been identified as one that may have an interest in this project. Accordingly, you are invited to become actively involved as a participating agency with this project. Acceptance of participating agency designation does not imply that your agency supports the proposed project or has jurisdiction or special expertise. The purpose of being a participating agency is to cooperatively work with the lead agency to identify and resolve issues that could delay completion of the process or could result in denial of approvals required for the project.

We suggest that your agency's role in the development of this EIS should include the following:

- Provide input on the impact assessment methodologies and level of detail in your agency's area of expertise;
- Participate in coordination meetings, conference calls, and joint field reviews, as appropriate;
- Identify as early as practicable issues of concern regarding the project's impacts;
- Identify as early as practicable issues that could delay or prevent an agency from granting a permit or approval needed for the project;



- Provide comments back on purpose and need, alternatives and proposed methodologies within 30 calendar days; and
- Provide comments on the Draft EIS within 60 days

The following are activities we will undertake to maximize interagency cooperation:

- Include you on mailing lists for coordination meetings;
- Invite you to project development team meetings;
- Consult with you on relevant technical studies required for the project and share information that may be useful to other studies in the area;
- Invite you to participate in field reviews;
- Organize joint field reviews with you, if requested;
- Provide you with project information, such as purpose and need, alternatives, proposed methodologies, and existing conditions and impacts; and
- Encourage you to use the above documents to express your review on subjects within your jurisdiction or expertise.

We also invite you to become a member of the project Technical Advisory Committee (TAC). Responsibilities of this committee are similar to those of participating agencies; however, inclusion on the TAC will enable you to receive periodic project updates and work collaboratively with local, state, and federal stakeholders toward a successful project. The TAC is scheduled to meet on the 1st Tuesday every other month beginning in June 2009. An agency scoping meeting was held on January 13, 2009. Your agency was invited to this meeting via letter dated December 5, 2008.

For your review and comment, we have included a copy of the coordination plan developed for this project. The coordination plan details the elements and expectations discussed in this letter, and lists the other agencies, groups and individuals involved in this environmental review process.

We look forward to your response and your potential role as a participating agency on this project. Please respond to FHWA in writing with an acceptance or denial of the invitation no later than June 8, 2009. If you have questions or would like to discuss the project in more detail or your agency's respective roles and responsibilities during the preparation of this document, please contact me at (775) 687-1231 or [abdelmoez.abdalla@fhwa.dot.gov](mailto:abdelmoez.abdalla@fhwa.dot.gov).

Sincerely,



Abdelmoez Abdalla  
Environmental Program Manager

Enclosure

cc: Steve Cooke (NDOT)  
Bill Vann, RTC  
Scott Gibson, RTC  
Andrea Reeves, Parsons

ecc: Andrew Soderborg, FHWA



705 North Plaza St. Suite 220  
Carson City, NV 89701

May 8, 2009

Nevada Division

In Reply Refer To:  
HENV-NV

Subject: Pyramid Way and McCarran Boulevard Intersection Improvement Project EIS  
Federal Agency/Participating Agency Invitation

Geno Martini, Mayor  
City of Sparks  
431 Prater Way, P.O. Box 857  
Sparks, Nevada 89432

Dear Mr. Martini:

The Federal Highway Administration (FHWA), in cooperation with the Nevada Department of Transportation (NDOT) and the Regional Transportation Commission of Washoe County (RTC), is initiating the preparation of an Environmental Impact Statement (EIS) for the Pyramid Way and McCarran Boulevard Intersection Improvement Project. The purpose of the proposed project is to enhance the operational characteristics of the intersection and improve safety. The Pyramid Way and McCarran Boulevard Intersection is a transportation network component serving the needs of the communities in Washoe County and the Cities of Sparks and Reno. The intersection links commuters from unincorporated Washoe County to the north via State Route 445 (Pyramid Highway) and commuters from the City of Sparks to the east via Baring and McCarran Boulevards.

Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Act: A legacy for users establishes the environmental review process for certain FHWA projects, which allows for more opportunities for public and agency participation. As part of the environmental review process for this project, the lead agencies must identify, as early as practicable, any other federal and non-Federal agencies that may have an interest in the project, and invite such agencies to become participating agency in the environmental review process. Your agency has been identified as one that may have an interest in this project. Accordingly, you are invited to become actively involved as a participating agency with this project. Acceptance of participating agency designation does not imply that your agency supports the proposed project or has jurisdiction or special expertise. The purpose of being a participating agency is to cooperatively work with the lead agency to identify and resolve issues that could delay completion of the process or could result in denial of approvals required for the project.

We suggest that your agency's role in the development of this EIS should include the following:

- Provide input on the impact assessment methodologies and level of detail in your agency's area of expertise;
- Participate in coordination meetings, conference calls, and joint field reviews, as appropriate;
- Identify as early as practicable issues of concern regarding the project's impacts;

**MOVING THE  
AMERICAN  
ECONOMY**



- Identify as early as practicable issues that could delay or prevent an agency from granting a permit or approval needed for the project;
- Provide comments back on purpose and need, alternatives and proposed methodologies within 30 calendar days; and
- Provide comments on the Draft EIS within 60 days

The following are activities we will undertake to maximize interagency cooperation:

- Include you on mailing lists for coordination meetings;
- Invite you to project development team meetings;
- Consult with you on relevant technical studies required for the project and share information that may be useful to other studies in the area;
- Invite you to participate in field reviews;
- Organize joint field reviews with you, if requested;
- Provide you with project information, such as purpose and need, alternatives, proposed methodologies, and existing conditions and impacts; and
- Encourage you to use the above documents to express your review on subjects within your jurisdiction or expertise.

We also invite you to become a member of the project Technical Advisory Committee (TAC). Responsibilities of this committee are similar to those of participating agencies; however, inclusion on the TAC will enable you to receive periodic project updates and work collaboratively with local, state, and federal stakeholders toward a successful project. The TAC is scheduled to meet on the 1st Tuesday every other month beginning in June 2009. An agency scoping meeting was held on January 13, 2009. Your agency was invited to this meeting via letter dated December 5, 2008.

For your review and comment, we have included a copy of the coordination plan developed for this project. The coordination plan details the elements and expectations discussed in this letter, and lists the other agencies, groups and individuals involved in this environmental review process.

We look forward to your response and your potential role as a participating agency on this project. Please respond to FHWA in writing with an acceptance or denial of the invitation no later than June 8, 2009. If you choose to decline, please state your reason for declining the invitation. If you have questions or would like to discuss the project in more detail or your agency's respective roles and responsibilities during the preparation of this document, please contact me at (775) 687-1231 or [abdelmoez.abdalla@fhwa.dot.gov](mailto:abdelmoez.abdalla@fhwa.dot.gov).

Sincerely,



Abdelmoez Abdalla  
Environmental Program Manager

Enclosure

cc: Steve Cooke, NDOT  
Bill Vann, RTC  
Scott Gibson, RTC  
Andrea Reeves, Parsons

ecc: Andrew Soderborg, FHWA

JUN 11 2009



MAYOR

June 10, 2009

Abdelmoez Abdalla  
Environmental Program Manager  
U.S. Department of Transportation  
705 North Plaza Street., Suite 220  
Carson City, Nevada 89701

Dear Mr. Abdalla:

Re: Pyramid Way and McCarran Boulevard Intersection Improvement Project EIS  
Federal Agency/Participating Agency Invitation

Thank you for your letter of May 8 requesting that the City of Sparks be a participating agency in this very sensitive project. This letter is our acceptance to contribute in the capacity of a participating agency.

You also indicated that our participation on the Technical Advisory Committee (TAC) would be beneficial and appreciated, and we are pleased to participate on the project TAC as well. I know that staff from the City of Sparks has been attending the regular TAC meetings since the inception of the project. Please contact Transportation Manager Jon R. Ericson, P.E., PTOE at 353-7809 should you have any questions or concerns with our past or future TAC involvement.

As you are aware, the Pyramid Way and McCarran Boulevard intersection is a vital connection to an ever-growing Spanish Springs Valley. Any additional assistance the City of Sparks can provide to you and the project is available upon request. Please feel free to contact me should the need arise.

Sincerely,

Geno R. Martini  
Mayor